PayPal™

Website Payments Pro Hosted Solution Integration Guide

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Website Payments Pro Hosted Solution Integration Guide

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P Preface

About This Guide

The *Website Payments Pro Hosted Solution Integration Guide* describes how to integrate with Hosted Solution. It includes information about:

- Features and benefits of Hosted Solution.
- Value-added services.
- Moving from Website Payments Standard to Hosted Solution.
- Integrating your website with Hosted Solution.
- Customising your hosted payment page.
- Testing your integration in the Sandbox environment.
- Verifying the status and authenticity of the transactions before fulfilling the orders.

Intended Audience

This guide is for merchants and developers that want to integrate with Hosted Solution to add transaction processing to their website.

Revision History

Revision history for *Website Payments Pro Hosted Solution Integration Guide.*

TABLE P.1 Revision History

Date	Description
July 2012	Removed references to the deprecated HTML variable: shopping_url
June 2012	• Updated the requirements for the billing address fields in the HTML Variables section. • Added a character limitations note to the following sections: HTML Variables, Adding HTML Variables and BMCreateButton API Operation. • Corrected the HTML samples in Chapter 2 and Chapter 5.
May 2012	Added IE9 to list of browsers that support iFrame.

Documentation Feedback

Help us improve this guide by sending feedback to:

documentationfeedback@paypal.com

1 Getting Started with Website Payments Pro Hosted Solution

Overview

Website Payments Pro provides an all-in-one package of a gateway, a merchant account, and a virtual terminal. There are a number of options to integrate Website Payments Pro, either through a shopping cart, through Direct Payment API, or using a PayPal hosted integration - Website Payments Pro Hosted Solution.

Hosted Solution is the fast and easy way to add transaction processing to your website. It is a secure, PayPal-hosted, web-based payment solution that allows you to securely send your buyers to PayPal's payment page to authorise and process transactions. Buyers pay with a debit or credit card, or their PayPal account and you do not have to capture or store credit card information on your website, thereby helping towards achieving PCI compliance.

Hosted Solution is the choice for merchants who prefer a solution where all financial details are handled by PayPal.

In addition to Hosted Solution, PayPal recommends that you implement the PayPal Express Checkout button on your website. The button appears much earlier in the payment flow and gives existing PayPal account holders the opportunity to use PayPal, thereby increasing the transaction completion rate.

Features and Benefits

Here are the features and benefits of Hosted Solution:

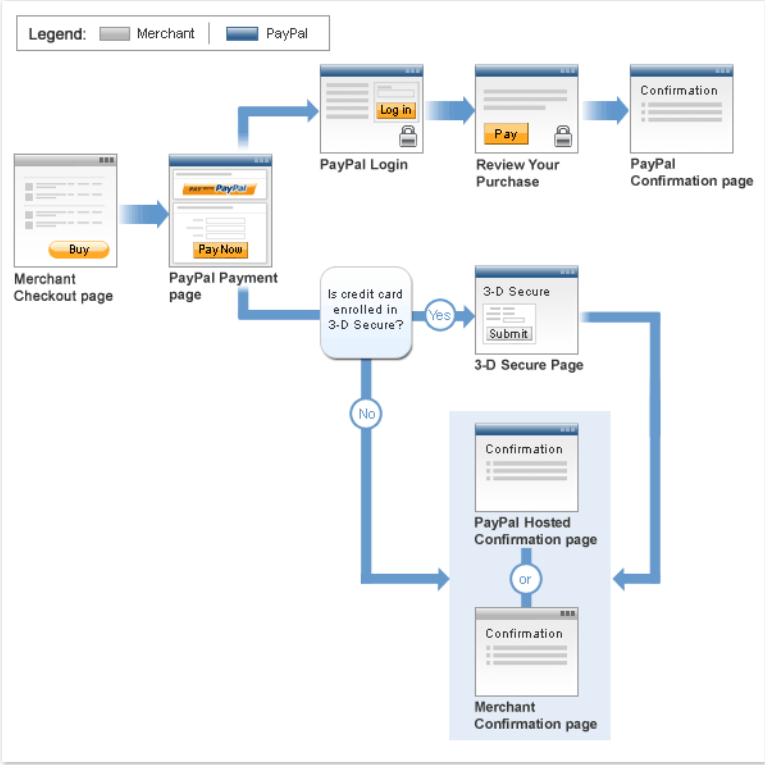
- **PCI compliance** - Payment Card Industry (PCI) Data Security Standards (DSS) is a global security standard which applies to all businesses that collect, store, process, or transmit card holder information. You can use PayPal's hosted payment page as part of the PCI compliance solution for your business.

  NOTE: Hosted Solution implementation helps achieving PCI compliance, and does not necessarily guarantee it.

- **Supports iFrame** - PayPal offers a compact payment form that can be integrated in an iFrame on your website. The buyer completes the payment on your website and you can maintain the checkout look and feel in the master frame that surrounds the compact form.The credit card fields are part of the compact form so you do not have to collect this information separately. For more information, refer to Chapter 4, "Integrating iFrame in Your Website.

- **Support for 3-D Secure Buyer Authentication Protocol** - 3-D Secure can help to add an extra layer of fraud protection for online credit and debit card payments from your buyers. It can benefit your business by helping to reduce the number of unauthorised chargebacks you receive and the time it takes to resolve them. You can enable 3-D Secure via the PayPal-hosted payment page quickly, easily, and at no extra cost.
- **Virtual Terminal** - PayPal-hosted online payment form, which enables you to accept phone fax, mail orders for all major credit cards.
- **PayPal Express Checkout** - Two-click payment option for PayPal account holders. For more information, refer to "PayPal Express Checkout Transaction Processing" on page 12.
- **Supports Major Credit and Debit Cards -** Supports Visa, Visa Debit, Visa Electron, MasterCard, and Maestro (UK).

How Hosted Solution Works



In the figure above, the top flow is for paying using your PayPal account and the bottom flow is for paying with a card.

To integrate your website with Hosted Solution:

1. Generate a button in your website checkout flow using HTML or API solution. The button could be labeled **Pay** or **Buy** or similar. When the buyer clicks this button, they are redirected to the payment page hosted by PayPal.
2. On the payment page, the buyer enters their debit or credit card information and clicks the **Pay Now** button.They do not have to have a PayPal account, although they have the option to use it if they have one.
3. If the transaction is successful, the buyer either sees PayPal's confirmation page or is redirected to a URL you specify. If the transaction is unsuccessful, an error message is displayed, and the buyer can rectify the error and retry the transaction.

You can specify the content of the payment page and configure its appearance to reflect the look and feel of your website (including your logo).

Value-Added Services

The following value-added services are offered to Website Payments Pro and can be used with Hosted Solution transactions:

Fraud Management Filters

PayPal provides many Fraud Management Filters (FMF), which make it easier for you to detect and respond to fraudulent transactions. FMF provides you with tools, called filters, that can identify potentially fraudulent transactions. The kinds of filters can be divided into the following categories:

- Free filters include basic filters that screen against the country of origin, the value of transactions, and such. PayPal provides basic filters for business accounts and Website Payments Pro accounts.
- Advanced filters include filters that screen credit card and addresses information, filters that screen against lists of high-risk indicators, and filters that screen additional transaction characteristics. Website Payments Pro merchants can upgrade to use advanced filters.

FMF checks for payment characteristics that may indicate fraudulent activity. You set up FMF to provide the tightest control possible over payments so that you can deny payments that are likely to result in fraudulent transactions and accept payments that are not typically a problem. Payments that may require further investigation or intervention, such as comparing prior orders or contacting the customer for more information, can be flagged or put on hold or pended for review. For more information, refer to Fraud Management Filters Guide.

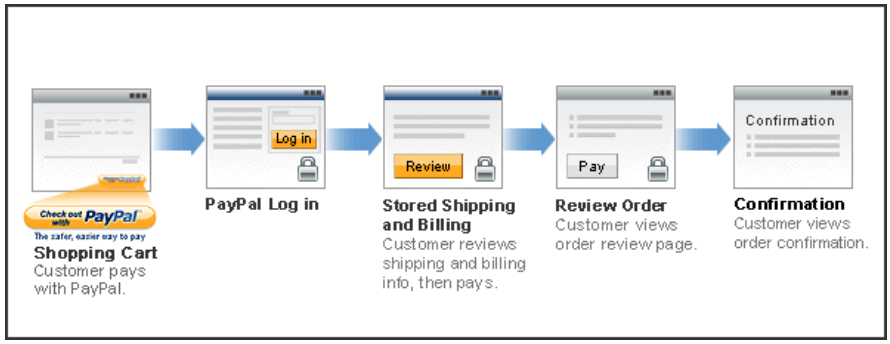
Recurring Payments

Recurring Payments is a scheduled payment solution that enables you to automatically bill a buyer for a fixed amount of money on a fixed schedule. When you create recurring payments for a buyer, you create a recurring payments profile. The profile contains information about the recurring payments, including details for an optional trial period and a regular payment period. Each of these subscription periods contains information about the payment frequency and payment amounts, including shipping and tax, if applicable. For more information, refer to Website Payments Pro Integration Guide.

NOTE: Recurring Payments is not supoorted by Hosted Solution. It is only supported using the DirectPayment API.

PayPal Express Checkout Transaction Processing

PayPal Express Checkout is PayPal's premier checkout solution. It makes it easier for your buyers to pay and allows you to accept PayPal while retaining control of the buyer and overall checkout flow. It enables the buyers to use shipping information stored securely at PayPal to check out, so they do not have to re-enter it on your site. The **Pay with PayPal** button can be placed on both the product page as well as the shopping cart page and is a great tool to increase checkout conversion.



The following steps describe how PayPal Express Checkout works

1. After selecting products to purchase on your website, buyers click **Pay with PayPal** button.
2. They are redirected to the PayPal site where they log in using their PayPal login and password.
3. After logging in, they review the order summary, and click **Continue Checkout** to authorise the transaction.
4. The buyers are then returned to the confirmation page on your website where they can verify the order details and submit the transaction.

For complete details on PayPal Express Checkout, refer to Express Checkout Integration Guide.

Introduction to Integrating with Hosted Solution

After signing up for Hosted Solution, follow these steps to integrate your website withHosted Solution:

1. Connect your website to Hosted Solution: Identify a point in your website checkout flow where you want to place a **Pay** or similar button that the buyer clicks on to initiate the payment. You can do this using HTML or API. Clicking on this button redirects the buyer's browser to PayPal's payment page for transaction processing. Depending on how you want to integrate, follow the steps described in Chapter 2, "Integrating Your Website Using HTML or Chapter 5, "Integrating Your Website Using API.
2. Optionally, customise the appearance and content of your PayPal-hosted payment page by either sending the appropriate HTTP variables or by editing your PayPal account settings. Refer to Chapter 3, "Customising Your PayPal Payment Page.
3. Optionally, test your integration in the PayPal Sandbox environment. This step is described in Chapter 6, "Testing Your Integration in Sandbox.

2 Integrating Your Website Using HTML

This chapter provides instructions for a simple integration that enables you to begin processing transactions using Hosted Solution.

NOTE: PayPal recommends that you implement the simple integration to familiarise yourself with Hosted Solution before implementing a more customised integration.

As part of a simple integration, you get the default settings on your payment page. To customise the look and feel of the page so it matches your website, you can do one of the following:

- Change your settings in your Profile section on PayPal.com, as described in "Modifying Your PayPal Account Settings" on page 21.
- Add the appropriate HTML variables to the payment page, as described in Table 2.1, "HTML Variables for Settings of Payment Page and Table 3.1, "HTML Variables for Look and Feel of Payment Page.

IMPORTANT: HTML variables will override the settings you save on your profile page.

Simple Hosted Solution Integration

To integrate your website with Hosted Solution, identify a point in your website checkout flow where you want to place a button that the buyer clicks to initiate the payment. The button should be labeled **Continue to Payment**, **Pay** or similar, and when clicked, should execute a Form POST to PayPal. Clicking on this button redirects the buyer's browser to the PayPal payment page where they can pay with debit or credit card, or their PayPal account.

The Form POST contains a set of HTML variables that describe the transaction and associate it with your Website Payments Pro account. In the Form POST, you must specify the following:

- `subtotal` - amount of the transaction
- `business` - Secure Merchant ID (found on the profile page) or the email address associated with your PayPal account.
- `paymentaction` - Indicates whether the transaction is for payment on a final sale or an authorisation for a final sale (to be captured later).

The default currency is USD. Additionally, you can specify the appropriate HTML variables listed in Table 2.1, "HTML Variables for Settings of Payment Page to customise the information collected on the payment page or Table 3.1, "HTML Variables for Look and Feel of Payment Page to customise the look and feel of the page. If the payment is successful, then the buyer either sees the PayPal confirmation page or is redirected to the URL you specify in your configuration.

The return URL is appended with a Transaction ID on the query string during the redirect back from the payment page to your website. This Transaction ID can be used to retrieve the status and verify the authenticity of the transaction. For detailed information on verifying the authenticity of the transaction before fulfilling the order, refer to Chapter 7, "Order Processing.

Sample Integration

Below is an example of a simple Hosted Solution integration:

1. Sample Hosted Solution Form POST:

```
<form action="https://securepayments.paypal.com/cgi-bin/acquiringweb"
method="post">
<input type="hidden" name="cmd" value="_hosted-payment">
<input type="hidden" name="subtotal" value="50">
<input type="hidden" name="business" value="HNZ3QZMCPBAAA">
<input type="hidden" name="paymentaction" value="sale">
<input type="hidden" name="return"
value="https://yourwebsite.com/receipt_page.html">
<input type="submit" name="METHOD" value="Pay">
</form>
```

   The bold text is the value for the corresponding variable. It is recommended that you enclose the values in quotes. For detailed information on these values, refer to Table 2.1, "HTML Variables for Settings of Payment Page.

2. Output the HTML text into your website at the point where buyers will proceed with their checkout.

3. Open your checkout page and test the button to ensure that it opens the PayPal payment page.

   You can also use the PayPal sandbox environment to test your integration. For complete information on testing your integration in the PayPal Sandbox environment, refer to Chapter 6, "Testing Your Integration in Sandbox.

HTML Variables

The table below lists the Hosted Solution HTML variables you can use to send in additional transaction information along with your web request. For a list of HTML variables that you can use to customise the look and feel of your payment page, refer to Table 3.1, "HTML Variables for Look and Feel of Payment Page.

NOTE: The values you pass must not contain any of these special characters (){}<>\";

NOTE: Some merchants are required to pass billing information with every transaction. It is recommended that you test your integration first, particularly if you plan to use iFrame, to determine if the billing information fields are required.

TABLE 2.1 HTML Variables for Settings of Payment Page

Variable	Description	Required
address1	Street name of shipping address. (1 of 2 fields).	No
address2	Street name of shipping address. (2 of 2 fields).	No
address_override	The payer is shown the passed-in address but cannot edit it. This variable is overridden if there are errors in the address. The allowable values are true/false. Default is false.	No
billing_address1	Street name of the billing address. (1 of 2 fields).	Conditional
billing_address2	Street name of the billing address. (2 of 2 fields).	No
billing_city	City name of the billing address.	Conditional
billing_country	Country code of the billing address.	Conditional
billing_first_name	First name of person the item is being billed to.	Conditional
billing_last_name	Last name of person the item is being billed to.	Conditional
billing_state	State name of the billing address.	Conditional
billing_zip	Zip code of the billing address.	Conditional
bn	Identifies the source that built the code for the button. **Format** - <Company>_<Service>_<Product>_<Country>	No
business	Your PayPal account email address or your PayPal ID (Secure Merchant ID) associated with your PayPal account. It is recommended that you use your PayPal ID, which can be found on the top section of the Profile page on PayPal.com	Yes
buyer_email	Email address of the buyer.	No

TABLE 2.1 HTML Variables for Settings of Payment Page *(Continued)*

Variable	Description	Required
`cancel_return`	The browser will be redirected to this URL if the buyer clicks "Return to Merchant" link. Be sure to enter the complete URL, including http:// or https://.	No
`cbt`	Sets the text for the "Return to Merchant" link on the PayPal confirmation page. For business accounts, the return button displays your business name in the place of the word "Merchant" by default.	No
`city`	City name of shipping address.	No
`country`	Country name of shipping address.	No
`currency_code`	The currency of the payment. The default is USD.	No
`custom`	Pass through variable never presented to the payer.	No
`first_name`	First name of person the item is being shipped to.	No
`handling`	Handling charged. This amount is added to `subtotal` for the total amount.	No
`invoice`	Order number in the merchant's ordering/invoice system.	No
`last_name`	Last name of person the item is being shipped to.	No
`lc`	The language of the login or sign-up page.	No
`night_phone_a`	The area code of the U.S. phone number, or the country code of the phone number outside the U.S. This pre-populates the buyer's home phone number.	No
`night_phone_b`	The three-digit prefix for U.S. phone numbers, or the entire non-U.S. phone number for numbers outside the U.S., excluding the country code. This pre-populates the buyer's home phone number. **NOTE:** Use this variable for non-US numbers.	No
`night_phone_c`	The four-digit phone number for U.S. phone numbers. This pre-populates the buyer's home phone number.	No
`notify_url`	The URL to which PayPal posts information about the transaction in the form of Instant Payment Notification. Be sure to enter the complete URL, including http:// or https://.	No
`paymentaction`	Indicates whether the transaction is for payment on a final sale or an authorisation for a final sale (to be captured later). • **Allowable Values:** - authorization or sale • **Default Value** - sale	Yes

TABLE 2.1 HTML Variables for Settings of Payment Page *(Continued)*

Variable	Description	Required
`return`	The URL to which the buyer's browser is redirected to after completing the payment. Be sure to enter the complete URL, including http:// or https://.	No
`shipping`	Shipping charged. This amount is added to `subtotal` for the total amount.	No
`state`	State of the shipping address.	No
`subtotal`	Amount charged for the transaction. If shipping, handling, and taxes are not specified, this is the total amount charged.	Yes
`tax`	Taxes charged. This amount is added to `subtotal` for the total amount.	No
`zip`	Postal code of the shipping address.	No

3 Customising Your PayPal Payment Page

You can customise the look and feel of the PayPal payment page in the following two ways:

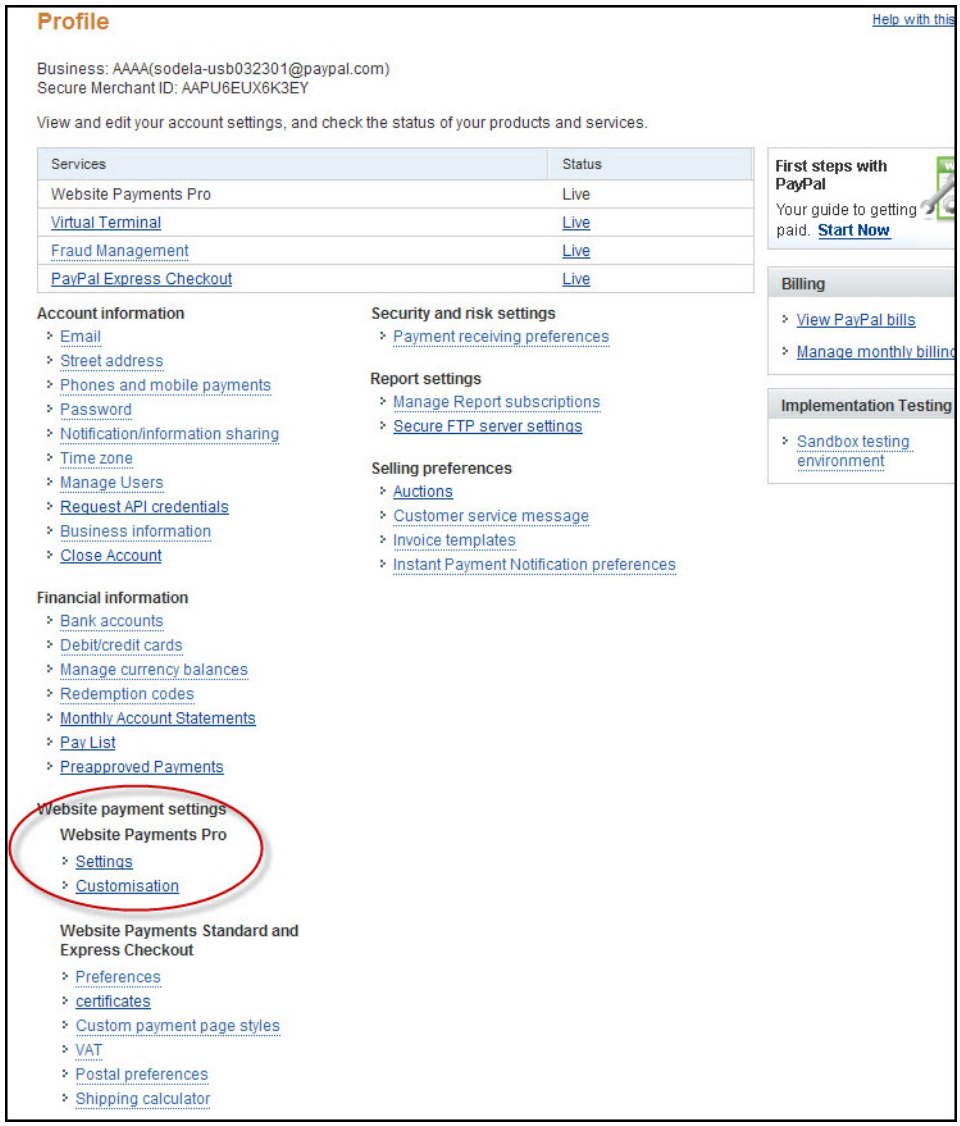
- Modifying Your PayPal Account Settings
- Adding HTML Variables

NOTE: HTML variables will override the settings you save on your profile page.

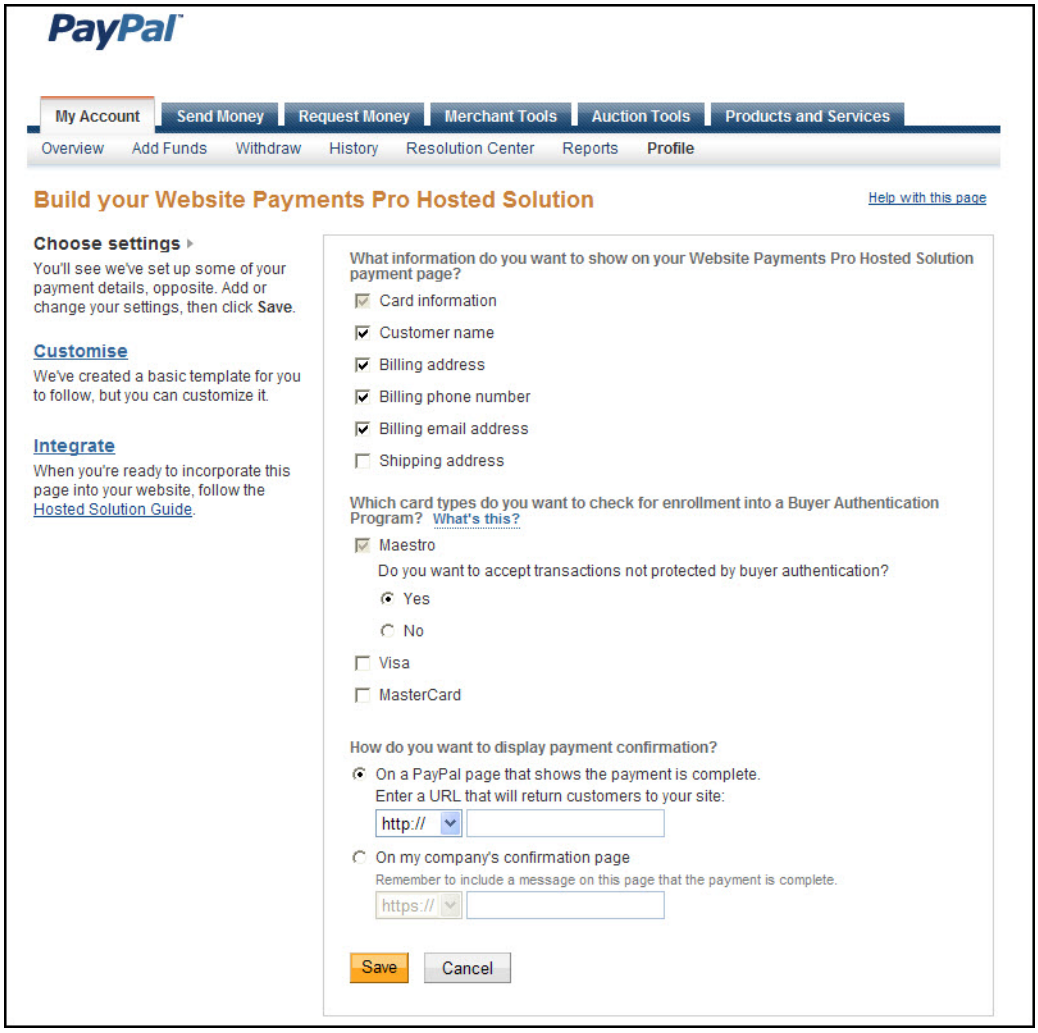
Modifying Your PayPal Account Settings

In your Profile section on PayPal.com, you can change the look and feel of the payment page by modifying the settings on the following pages under the Website Payment Settings section.

- Settings
- Customisation


Profile
Help with this
Business: AAAA(sodela-usb032301@paypal.com)
Secure Merchant ID: AAPU6EUX6K3EY
View and edit your account settings, and check the status of your products and services.
Services
Status
Website Payments Pro
Live
Virtual Terminal
Live
Fraud Management
Live
PayPal Express Checkout
Live
First steps with PayPal
Your guide to getting paid. Start Now
Billing
View PayPal bills
Manage monthly billing
Implementation Testing
Sandbox testing environment
Account information
Email
Street address
Phones and mobile payments
Password
Notification/information sharing
Time zone
Manage Users
Request API credentials
Business information
Close Account
Financial information
Bank accounts
Debit/credit cards
Manage currency balances
Redemption codes
Monthly Account Statements
Pay List
Preapproved Payments
Website payment settings
Website Payments Pro
Settings
Customisation
Website Payments Standard and Express Checkout
Preferences
certificates
Custom payment page styles
VAT
Postal preferences
Shipping calculator
Security and risk settings
Payment receiving preferences
Report settings
Manage Report subscriptions
Secure FTP server settings
Selling preferences
Auctions
Customer service message
Invoice templates
Instant Payment Notification preferences

Settings



This page allows you to select the information you want to collect and display on your payment page and where you want to display the payment confirmation.

Although we offer many options on this page, we recommend that you display as few options as possible on the payment page. For example, you may have already collected shipping address on your own website in order to calculate the shipping cost and passed it on to PayPal's payment page. Therefore, it is not necessary to show this option on the payment page again.

You could have information that has already been collected on your website, but you may want to pass it to PayPal and display it on the hosted payment page again. This information will be pre-filled and editable on this page.

What information do you want to show on your Website Payments Pro Hosted Solution payment page?

You can select the fields that are displayed on your hosted payment page. You have the following options:

- **Card Information** - Buyer's credit card information. This field is always displayed and selected by default.
- **Customer Name** - Buyer's first and last name
- **Billing Address** - Buyer's billing address
- **Billing Phone Number** - Buyer's phone number
- **Billing Email Address** - Buyer's email address
- **Shipping Address** - Buyer's shipping address.

Which card types do you want to check for enrollment into a Buyer Authentication Program?

You can check Maestro, Visa, and MasterCard card types for enrollment in a buyer authentication program like 3-D Secure. 3-D Secure implementation such as Verified by Visa or MasterCard SecureCode is an additional form of authentication which provides a credit and debit card holder another layer of security while paying for online purchases. This deters the unauthorised use of the buyer's credit or debit card during online purchases and also reduces the chargeback rate for the merchants implementing this scheme.

NOTE: Maestro transactions require buyer authentication information. If buyer authentication information is not present, your transaction will be declined.

After selecting a card type to check for enrollment, you can also choose to accept transactions that are not protected by buyer authentication (transactions that do not pass the 3-D Secure check). You have the following options for such transactions:

- **Yes** - PayPal processes these transactions as non-buyer authentication transactions.
- **No** - PayPal rejects these transactions.

How do you want to display payment confirmation?

Once the transaction is successful, you can choose to display your payment confirmation on either a PayPal's confirmation page or on your own payment confirmation page.

- **On a PayPal page that shows the payment is complete** - The payment confirmation appears on the PayPal confirmation page. Optionally, you can also provide a URL on the confirmation page to take your buyer back to your website. To do so, enter the appropriate URL in the field provided.
- **On the Company's confirmation page** - The payment confirmation will appear on your own payment confirmation page. For this, enter the URL of the page that will display the payment confirmation. You will have to message the outcome of the transaction to the buyer when PayPal redirects back to this URL. Be sure to display specifics of the order so the buyer sees a meaningful confirmation. You can get the specifics of the order using the Transaction ID we pass back to you with the return URL.

Customisation

This page allows you to customise your payment page. You can customise the header, background, title, button, and the order summary column of your payment page.

PayPal offers three design templates for you to choose. Template A is the default template, however, you can choose from any of the templates offered.

NOTE: Your buyers will not see the payment page until you have completed the HTML integration with your website.

Preview the design of your payment page. You can either change the design of your template, or select and customise a different template on this page. To make changes, left-click on the section you are trying to modify or the corresponding **Click to Edit** button for that section. On the pop-up that appears, click the color selector to change the color, or enter the appropriate URL, as needed.

If the buyer pays by logging into PayPal, the look and feel of that flow can be customised through the Website Payment Standard customisation options on the Profile page.

After making the changes, click one of the following buttons:

- **Preview** - Preview the changes you have made to your template before saving and publishing it.
- **Save and Publish** - Save all the changes you have made and publish the updated template. Your buyers will see the updated payment page.
- **Cancel** - Discard all the changes you have made in this session.
- **Previous Version** - Discard all changes you have made since the last time you saved the template. Your buyers will see the last saved template.

NOTE: You must make all modifications (including changing templates) within the same session, otherwise all changes will be lost and you will have to redo your changes. If the session times out, the design of the template will remain at the version that was last published.

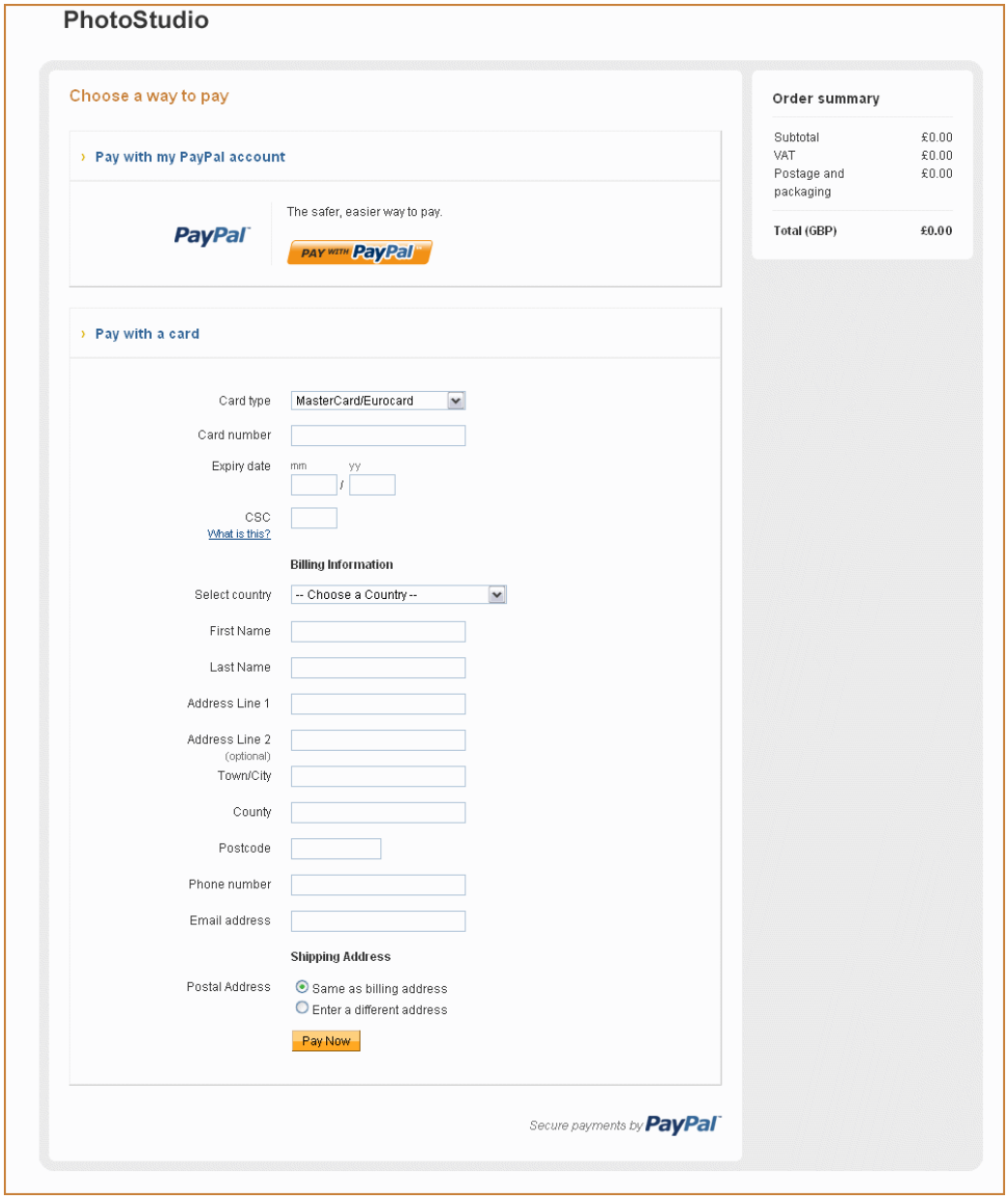
Choosing a Template

Choose from the following three design templates:

- Template A
- Template B
- Template C

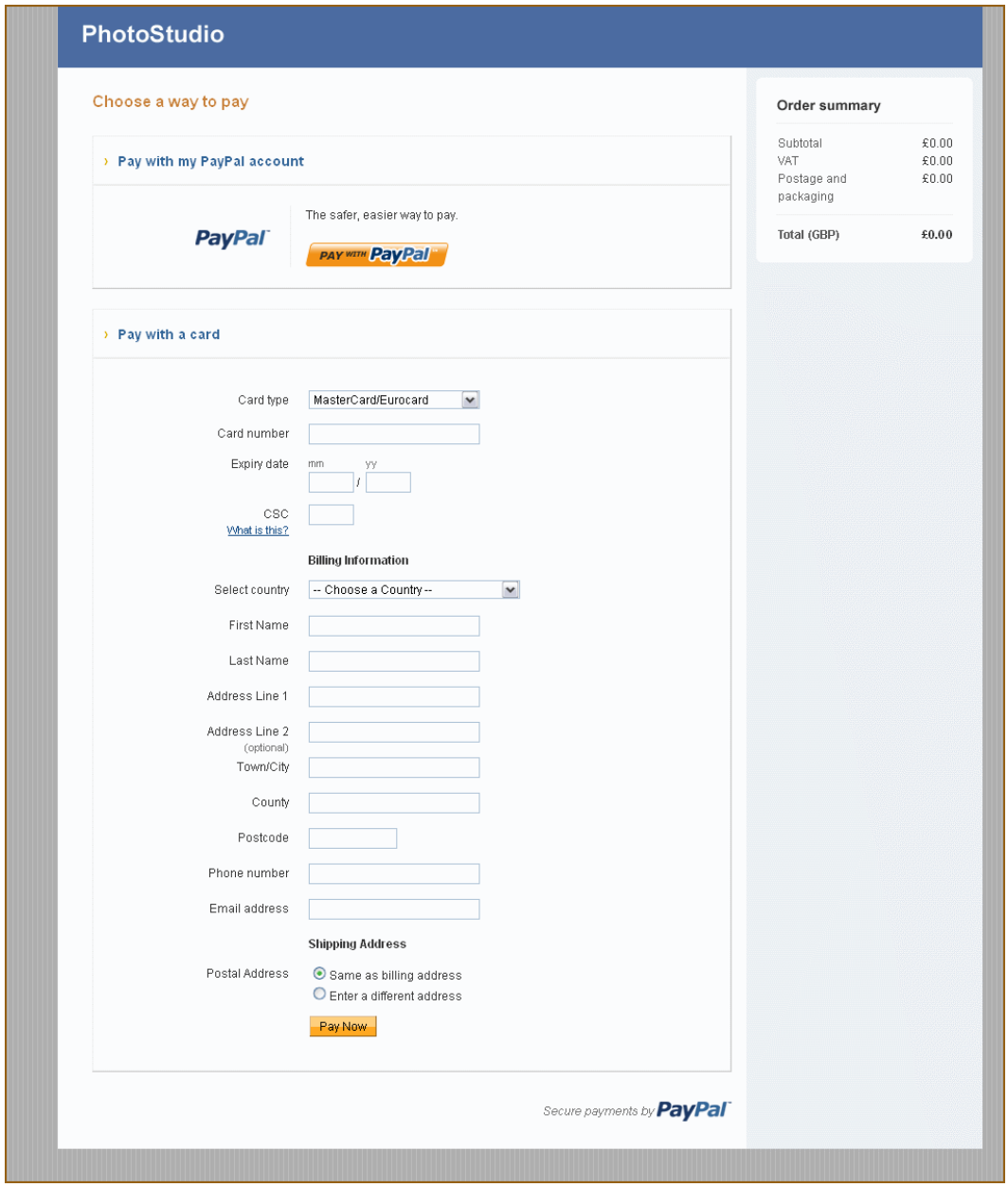
Template A. Selected by default - you can customise the header.

FIGURE 3.1 Template A



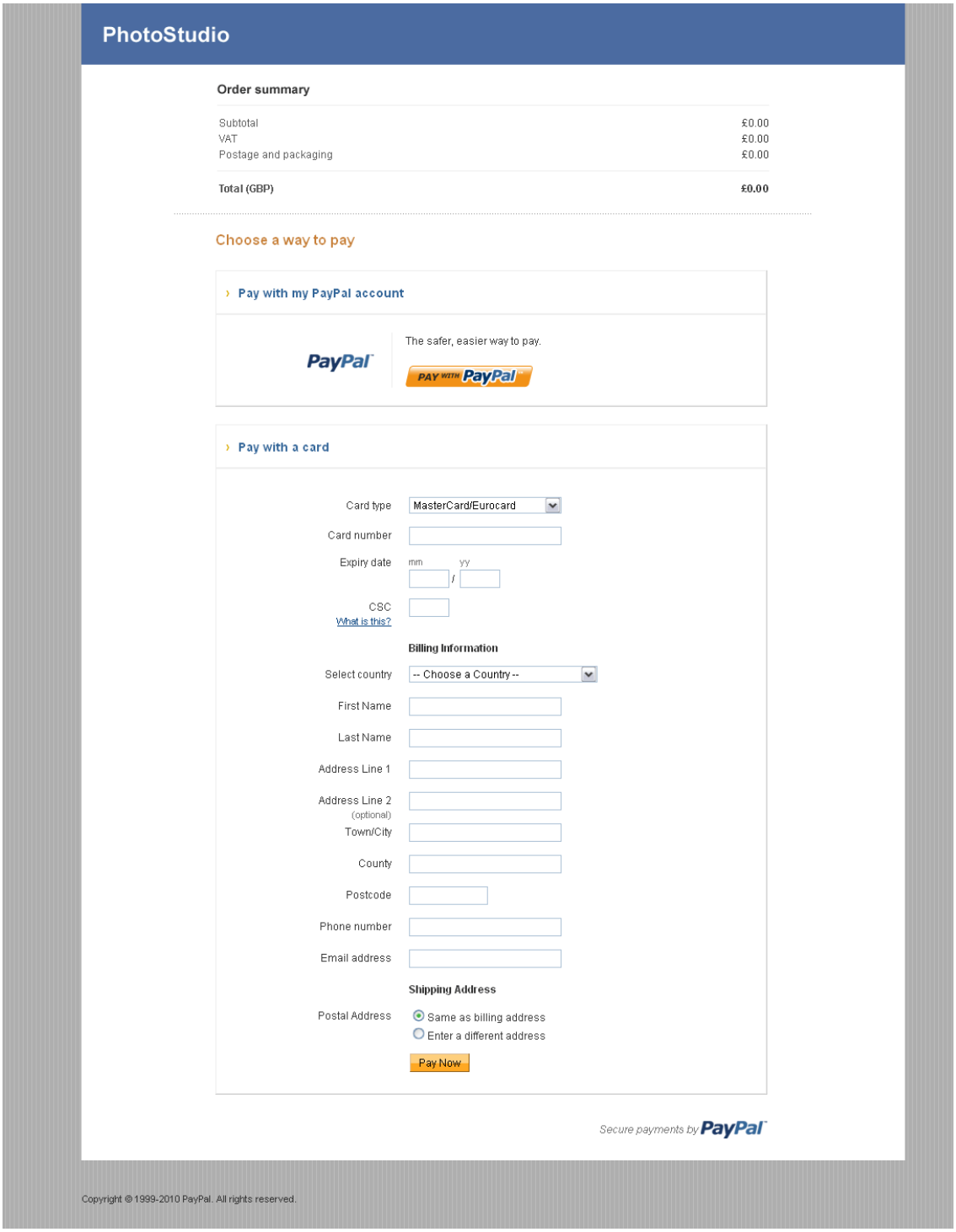
Template B. Customise the header, background, title, button, and the order summary column.

FIGURE 3.2 Template B



Template C. Customise the header, background, title, and the button.

FIGURE 3.3 Template C



Customising Your Template

Consider the following when you customise your template:

- **Header** (applicable to Template A, B, and C) - By default, the business name from your profile is shown in the header. You can change the following:
  - Header height and color
  - Font type, size, and color
  - Swap between displaying the business name or the business logo image
  - Position of the business name or the logo

  NOTE: We recommend that you host your images on a secure server (https://) to avoid the security dialog window that may hurt conversion.
- **Background** (applicable to Template B and C) - You can change the following:
  - Background color
  - Background image URL
- **Title and Button** (applicable to Template B and C) - You can change the following:
  - Header color
  - Title bar color and title text color
  - Button color and button text color
- **Order Summary Column** (applicable to Template C) - You can change the following:
  - Column color
  - Image URL

Adding HTML Variables

The table below lists the Hosted Solution HTML variables you can use to customise the look and feel of your payment page.

NOTE: The values you pass must not contain any of these special characters (){}<>\";

TABLE 3.1 HTML Variables for Look and Feel of Payment Page

Variable	Description
`bodyBgColor`	Color of the surrounding background of the payment page.
`bodyBgImg`	Image of the surrounding background of the payment page. The file extension can be .gif, .jpg, .jpeg, or .png format.
`footerTextColor`	Color of the footer text.
`headerBgColor`	Color of the header background.
`headerHeight`	Height of the header banner. It can be from 50 to 140 pixels. The width cannot be changed. It is always 940 pixels.
`logoFont`	Font type of the logo text.
`logoFontColor`	Color of the logo text.
`logoFontSize`	Font size of the logo text.
`logoImage`	Image displayed in the logo. The acceptable file extension formats are .gif, .jpg, .jpeg, or .png. The width of the image cannot be more than 940 pixels.
`logoImagePosition`	Position of the image in the logo.
`logoText`	Business name displayed on your profile page. This field is editable and text specified here is displayed on the header if logoImage is not specified.
`orderSummaryBgColor`	Color of the Order Summary column on the right side of the payment page. You cannot change the color of the Order Summary box.
`orderSummaryBgImage`	Background image you can put in the Order Summary Column. The acceptable file extension formats are .gif, .jpg, .jpeg, or .png.
`pageButtonBgColor`	Background color of the **Pay Now** button.
`pageButtonTextColor`	Color of the **Pay Now** button. You cannot change the text of the button.
`pageTitleTextColor`	Color of the text used in the title of the page. (Text that says “Choose a way to pay.”)
`sectionBorder`	Background of the section that displays “Pay with my PayPal account” or “Pay with a Card”.

TABLE 3.1 HTML Variables for Look and Feel of Payment Page

Variable	Description
`showCustomerName`	Display customer name (first name and last name). • **Default Value**: true • **Allowable Value**: true or false, where true = show and false = hide.
`showBillingAddress`	Display billing address information. • **Default Value**: true • **Allowable Value**: true or false, where true = show and false = hide.
`showBillingPhone`	Display billing phone number. • **Default Value**: true • **Allowable Value**: true or false, where true = show and false = hide.
`showBillingEmail`	Display email address for billing purposes. • **Default Value**: false • **Allowable Value**: true or false, where true = show and false = hide.
`showHostedThankyouPage`	Display PayPal's confirmation page. • **Default Value**: true • **Allowable Value**: true or false, where true = show and false = hide.
`showShippingAddress`	Display shipping address. • **Default Value**: false • **Allowable Value**: true or false, where true = show and false = hide.
`subheaderText`	Color of the "Pay with my PayPal account" or "Pay with a Card" text.
`template`	Template used for your payment page. Options are TemplateA, TemplateB, and TemplateC. TemplateD is used for iFrame integration only and is not an option on the Customization page on PayPal.com.

4 Integrating iFrame in Your Website

PayPal offers a compact payment form that can be integrated in an iFrame on your website. Since this form is integrated on your website, the buyer never leaves your website, thereby reducing potential drop-offs. You can also maintain your checkout look and feel in the master frame that surrounds the compact payment form. The credit card fields are part of the compact payment form so you do not have to collect this information separately. The form also supports 3-D Secure frames.

IMPORTANT: Due to security concerns involving iFrame, the following browsers are supported and secure to use - Internet Explorer 7.0, 8.0 and 9.0, Firefox 8, Chrome 4 and 4.1, Safari 4.x and 5.x. Transactions involving users of other browsers should not use the iFrame flow or abandon the transaction. Additionally, there is another risk beyond the iFrame flow - should the PayPal iFrame become the source of an attack, it would appear that the attack is originating from the merchant site; do not use the iFrame flow if you wish to avoid this additional risk.

NOTE: Due to spoof concerns, the form does not contain any PayPal branding.

The compact payment form contains the following fields:

- Credit card number
- Expiry date
- CVV2 number (if applicable, based on the card type)
- Any additional fields required for other card types, such as start date and issue number for Maestro or Switch.

The form also offers the following options:

- Remove the **Pay with PayPal** button. Although the form offers the option to pay using PayPal account by default, you can contact your account manager or customer support to turn this option off.
- Manually customize the color of the **Pay Now** button.

IMPORTANT: The compact payment form does not display the buyer's billing address, even if `showBillingAddress=true` is passed. However, for some merchants, it may be necessary to pass the billing address to successfully process the transactions.

Integrating iFrame

Choose one of the following methods to integrate the compact payment form in your website:

- Manual Integration
- API Integration

IMPORTANT: For optimal performance, PayPal recommends that you load the iFrame asset before other assets such as images and JavaScripts. If there are too many assets running on your payment page when you load iFrame, the request for the iFrame may not be placed or might get delayed. This may result in the buyers seeing a blank iFrame.

Manual Integration

To manually integrate the compact payment form in your website, perform the following steps:

1. Enter the iFrame tag at the location where you want the compact payment form to appear on your website. For example:

   ```
   <iframe name="hss_iframe" width="570px" height="540px"></iframe>
   ```

   The allowable size for the compact payment form is 570 pixels in width to 540 pixels in height.

2. Below is the iFrame code, add the hidden form that is populated with the appropriate Hosted Solution variables (including the total amount to be paid) and specify the variable `TemplateD`. For example,

   ```
   <form style="display:none" target="hss_iframe" name="form_iframe"
   method="post"
   action="https://securepayments.paypal.com/cgi-bin/acquiringweb">
   <input type="hidden" name="cmd" value="_hosted-payment">
   <input type="hidden" name="subtotal" value="50">
   <input type="hidden" name="business" value="HNZ3QZMCPBAAA">
   <input type="hidden" name="paymentaction" value="sale">
   <input type="hidden" name="template" value="templateD">
   <input type="hidden" name="return"
   value="https://yourwebsite.com/receipt_page.html">
   </form>
   ```

   NOTE: If the iFrame transactions fail, pass the billing address

3. Ensure that the target name matches the iFrame name, as highlighted in the example below:

```
<iframe name="hss_iframe" width="570px" height="540px"></iframe>

<form style="display:none" target="hss_iframe" name="form_iframe"
method="post"
action="https://securepayments.paypal.com/cgi-bin/acquiringweb">
```

4. Submit the form using JavaScript. For example:

```
<script type="text/javascript">
     document.form_iframe.submit();
</script>
```

Example of Manual Integration

The complete example as per the above steps is as follows:

```
<iframe name="hss_iframe" width="570px" height="540px"></iframe>
<form style="display:none" target="hss_iframe" name="form_iframe"
method="post"
action="https://securepayments.paypal.com/cgi-bin/acquiringweb">
<input type="hidden" name="cmd" value="_hosted-payment">
<input type="hidden" name="subtotal" value="50">
<input type="hidden" name="business" value="HNZ3QZMCPBAAA">
<input type="hidden" name="paymentaction" value="sale">
<input type="hidden" name="template" value="templateD">
<input type="hidden" name="return"
value="https://yourwebsite.com/receipt_page.html">
</form>
<script type="text/javascript">
     document.form_iframe.submit();
</script>
```

API Integration

To integrate the compact payment form in your website using the API, refer to "Using the Button Manager API with Hosted Solution Checkout" on page 40.

NOTE: Use template=**templateD** for this type of integration.

There are two options in the response to initiate the Hosted Solution payment flow:

- Using URL Returned in the Response
- Using Form POST

Using URL Returned in the Response

In the URL identified in the response as EMAILLINK, add "src" for iFrame as per the example below to redirect the buyer and initiate the payment flow.

```
<iframe src="https://www.paypal.com/...?hosted_button_id=HSS-.."
width="570px" height="540px"></iframe>
```

The allowable size of the compact payment form is 570 pixels in width to 540 pixels in height.

IMPORTANT: This option is not supported by Safari browsers. Use the Form POST option described below.

Using Form POST

Identify the WEBSITECODE in the response and use the code to create a **Pay Now** button on your review page. When your buyer clicks the button, they are redirected to the PayPal hosted payment page. Like the URL, the button is usable for approximately two hour or until the payment is successful.

1. Enter the iFrame tag at the location where you want the compact payment form to appear on your website. For example:

   ```
   <iframe name="hss_iframe" width="570px" height="540px"></iframe>
   ```

   The allowable size for the compact payment form is 570 pixels in width to 540 pixels in height.

2. Insert the following in the iFrame tag:

   ```
   WEBSITECODE=<form action="https://www.paypal.com/cgi-bin/webscr"
   method="post">
   <input type="hidden" name="cmd" value="_s-xclick">
   <input type="hidden" name="hosted_button_id" value="HSS-
   bXkpgPTNgZi7CyfIwWTAkWPSDbKziokU">
   <input type="image" src="https://www.paypal.com/i/btn/btn_paynow_LG.gif"
   border="0" name="submit" alt="PayPal - The safer, easier way to pay
   online.">
   <img alt="" border="0" src="https://www.paypal.com/i/scr/pixel.gif"
   width="1" height="1">
   </form>
   ```

3. Submit the form using JavaScript. For example:

   ```
   <script type="text/javascript">
        document.form_iframe.submit();
   </script>
   ```

Example of API (Form POST) Integration

The complete example as per the above steps is as follows:

```
<iframe name="hss_iframe" width="570px" height="540px"></iframe>

WEBSITECODE=<form action="https://www.paypal.com/cgi-bin/webscr"
method="post">
<input type="hidden" name="cmd" value="_s-xclick">
<input type="hidden" name="hosted_button_id" value="HSS-
bXkpgPTNgZi7CyfIwWTAkWPSDbKziokU">
<input type="image" src="https://www.paypal.com/i/btn/btn_paynow_LG.gif"
border="0" name="submit" alt="PayPal - The safer, easier way to pay
online.">
<img alt="" border="0" src="https://www.paypal.com/i/scr/pixel.gif"
width="1" height="1">
</form>
<script type="text/javascript">
     document.form_iframe.submit();
</script>
```

5 Integrating Your Website Using API

Using the Button Manager API, you can programmatically create the checkout button that initiates the Hosted Solution checkout flow on your website. You create the checkout button dynamically when the buyer attempts to checkout on your website. When the buyer clicks on your checkout button, you call the `BMCreateButton` API operation to create a checkout button and display it on your web page. When the buyer clicks on this checkout button, he or she is redirected to the PayPal payment page where he or she can complete the payment. You can use 3-D Secure functionality on the PayPal payment page.

HTML variables control the presentation of the PayPal payment pages, the information contained on the pages, and pages to which your buyer can be returned to when leaving the payment pages. For a list of HTML variables, refer to "HTML Variables" on page 17.

For complete information on the Button Manager API, refer to the Button Manager API (NVP) or Button Manager API (SOAP).

NOTE: Using the Button Manager API, you can programmatically create the checkout button, but not manage, edit, or delete it.

Button Hosting

For Hosted Solution, using `BUTTONTYPE=PAYMENT`, you can create the following kinds of checkout buttons:

- **Token buttons** (`BUTTONCODE=TOKEN`) are not stored on PayPal. They are dynamic and initiate the Hosted Solution checkout flow. The parameters associated with this kind of button are secure. They have a lifetime of approximately two hours, if not used.
- **Encrypted buttons** (`BUTTONCODE=ENCRYPTED`) are not stored on PayPal. The parameters associated with this kind of button are encrypted. You must update the web pages that use an encrypted button each time the button or the associated information changes.
- **Clear text buttons** (`BUTTONCODE=CLEARTEXT`) are not stored on PayPal. The parameters associated with this kind of button are not encrypted. They can be used dynamically because you can change the value of a parameter anytime. However, if you use them, recognize the risk that sensitive information can be altered or stolen.

NOTE: Hosted buttons (`BUTTONCODE=HOSTED`) are not supported for Hosted Solution and will return an error if used.

For more information about Button Manager API usage, refer to "BMCreateButton API Operation" on page 45.

Using the Button Manager API with Hosted Solution Checkout

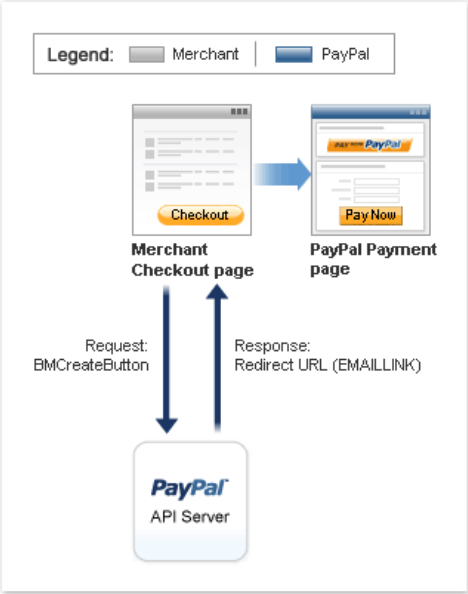
To create a checkout button on your website, you call the BMCreateButton API operation. When the buyer clicks on the checkout button, PayPal initiates the Hosted Solution checkout flow.

You must decode the response from the BMCreateButton API. For information about URL encoding, refer to the Name-Value Pair API Developer Guide.

There are two options in the response to initiate the Hosted Solution payment flow:

- Using URL Returned in the Response (Recommended)
- Using Form POST

Using URL Returned in the Response (Recommended)



Using the URL identified in the response as EMAILLINK, you can redirect the buyer and initiate the payment flow.

Example of TOKEN

```
EMAILLINK=https://www.paypal.com/cgi-bin/webscr?cmd=_s-
xclick&hosted_button_id=HSS-
2MTCOLOp9LoPGdFYsYclhbGyjJVNrMHO&HOSTEDBUTTONID=HSS-
2MTCOLOp9LoPGdFYsYclhbGyjJVNrMHO&TIMESTAMP=2010-09-
15T00:30:35Z&CORRELATIONID=2fc9a340a2356&ACK=Success&VERSION=65.0&BUILD=150
0269
```

Example of ENCRYPTED

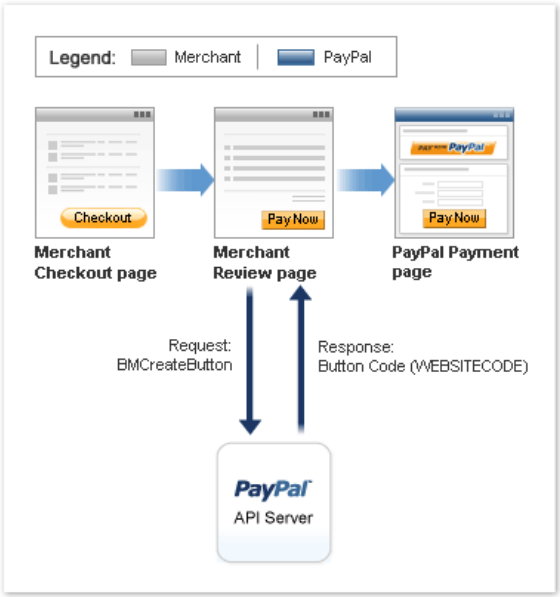
```
EMAILLINK=https://www.paypal.com/acquiringweb?cmd=_hosted-
payment&business=idc%2dautomation%2duk%2dpro%2dt1%40paypal%2ecom&tax=2&ship
ping=3&business=K5HHZSMWMCN58&subtotal=11&handling=4&TIMESTAMP=2010-09-
15T00:39:06Z&CORRELATIONID=23d12ce1161f2&ACK=Success&VERSION=65.0&BUILD=150
0269
```

Example of CLEARTEXT

```
EMAILLINK=https://www.paypal.com/acquiringweb?cmd=_hosted-
payment&business=idc%2dautomation%2duk%2dpro%2dt1%40paypal%2ecom&tax=2&ship
ping=3&business=K5HHZSMWMCN58&subtotal=11&handling=4&TIMESTAMP=2010-09-
15T00:40:32Z&CORRELATIONID=64553e7c7c84&ACK=Success&VERSION=65.0&BUILD=1500
269
```

The button variables control the presentation in the flow and the information that is provided to the buyer initially. Because the URL is associated with a Hosted Solution token, the URL is usable for approximately two hours after it is created or until the payment is successful.

Using Form POST



Identify the WEBSITECODE in the response and use the code to create a **Pay Now** button on your review page. When your buyer clicks the button, they are redirected to the PayPal hosted payment page. Like the URL, the button is usable for approximately two hours or until the payment is successful.

Example for TOKEN

```
WEBSITECODE=<form action="https://www.paypal.com/cgi-bin/webscr"
method="post">
<input type="hidden" name="cmd" value="_s-xclick">
<input type="hidden" name="hosted_button_id" value="HSS-
2MTCOLOp9LoPGdFYsYclhbGyjJVNrMHO">
<input type="image"
src="https://www.paypal.com/en_US/i/btn/btn_auto_billing_LG.gif" border="0"
name="submit" alt="PayPal - The safer, easier way to pay online.">
<img alt="" border="0" src="https://www.paypal.com/en_GB/i/scr/pixel.gif"
width="1" height="1">
</form>
```

Example for ENCRYPTED

```
WEBSITECODE=<form action="https://www.paypal.com/cgi-bin/webscr"
method="post">
<input type="hidden" name="cmd" value="_s-xclick">
<input type="hidden" name="encrypted" value="BEGIN PKCS7......END PKCS7">
<input type="image"
src="https://www.paypal.com/en_US/i/btn/btn_auto_billing_LG.gif" border="0"
name="submit" alt="PayPal - The safer, easier way to pay online.">
<img alt="" border="0" src="https://www.paypal.com/en_GB/i/scr/pixel.gif"
width="1" height="1">
</form>
```

Example of CLEARTEXT

```
WEBSITECODE=<form action="https://www.paypal.com/acquiringweb"
method="post">
<input type="hidden" name="cmd" value="_hosted-payment">
<input type="hidden" name="business" value="test1@paypal.com">
<input type="hidden" name="tax" value="2">
<input type="hidden" name="shipping" value="3">
<input type="hidden" name="business" value="K5HHZSMWMCN58">
<input type="hidden" name="subtotal" value="11">
<input type="hidden" name="paymentaction" value="sale">
<input type="hidden" name="handling" value="4">
<input type="image"
src="https://www.paypal.com/en_US/i/btn/btn_auto_billing_LG.gif" border="0"
name="submit" alt="PayPal - The safer, easier way to pay online.">
<img alt="" border="0" src="https://www.paypal.com/en_GB/i/scr/pixel.gif"
width="1" height="1">
</form>
```

NOTE: The PayPal payment page displays a button identified as **Pay Now** to complete the checkout flow. The **Pay Now** button on the PayPal page is different than the **Pay Now** button created by the BMCreateButton API operation on the review page. You may need to change the URL for the latter in `BUTTONIMAGEURL` to avoid confusion.If a URL is not specified in `BUTTONIMAGEURL`, then the default **Pay Now** is used for the button.

Encrypting Buttons Using Public and Private Key

Using Encrypted Website Payments helps secure payment buttons that you generate or write manually. Encrypted Website Payments protects the HTML button code that contains pricing information by encrypting it. HTML button code that you protect by using Encrypted Website Payments cannot be altered by malicious third parties to create fraudulent payments. For detailed information, refer to Chapter 8, “Protecting Buttons by Using Encrypted Website Payments

Example of Initiating Hosted SolutionCheckout

The example shows the NVP parameters using `BUTTONCODE=TOKEN` for creating a URL to initiate the Hosted Solution checkout flow.

```
...
BUTTONCODE=TOKEN
BUTTONTYPE=PAYMENT
BUTTONIMAGEURL=https://www.paypal.com/en_US/i/btn/btn_billing.gif
L_BUTTONVAR0=subtotal=11
L_BUTTONVAR1=tax=2
L_BUTTONVAR2=shipping=3
L_BUTTONVAR3=handling=4
L_BUTTONVAR4=first_name=Bob
L_BUTTONVAR5=last_name=Jones
L_BUTTONVAR6=address1=Gardens
L_BUTTONVAR7=address2=99343
L_BUTTONVAR8=city=Paris
L_BUTTONVAR9=state=Alsace
L_BUTTONVAR10=zip=75002
L_BUTTONVAR11=country=FR
L_BUTTONVAR12=billing_first_name=BobBilling
L_BUTTONVAR13=billing_last_name=JonesBilling
L_BUTTONVAR14=billing_address1=5088 - 061 Craven Hill Gardens
L_BUTTONVAR15=billing_address2=Apt# 199343
L_BUTTONVAR16=billing_city=Wolverhampton
L_BUTTONVAR17=billing_state=West Midlands
L_BUTTONVAR18=billing_zip=W12 4LQ
L_BUTTONVAR19=billing_country=GB
L_BUTTONVAR20=night_phone_a=408
L_BUTTONVAR21=night_phone_b=398
L_BUTTONVAR22=night_phone_c=3065
```

```
L_BUTTONVAR23=notify_url=www.yourcompany.com
L_BUTTONVAR24=custom=custom1
L_BUTTONVAR25=cancel_return=http://www.cancel_return.com
L_BUTTONVAR26=paymentaction=sale
L_BUTTONVAR27=currency_code=GBP
L_BUTTONVAR28=invoice=123456789
L_BUTTONVAR29=lc=GB
L_BUTTONVAR30=showBillingAddress=false
L_BUTTONVAR31=showShippingAddress=false
L_BUTTONVAR32=showBillingEmail=true
L_BUTTONVAR33=showBillingPhone=true
L_BUTTONVAR34=showCustomerName=true
L_BUTTONVAR35=showCardInfo=true
L_BUTTONVAR36=showHostedThankyouPage=true
L_BUTTONVAR37=bn=GBD
L_BUTTONVAR38=cbt=Merchant ABCD
L_BUTTONVAR39=address_override=false
L_BUTTONVAR40=cpp_header_image=Red
L_BUTTONVAR41=logoText=YourCompanyLogo
L_BUTTONVAR42=logoImage=http://yourcompanyimages.com/logo.gif
L_BUTTONVAR43=logoImagePosition=center
L_BUTTONVAR44=logoFont=Arial Bold
L_BUTTONVAR45=logoFontSize=24px
L_BUTTONVAR46=logoFontColor=#f0ff0f
L_BUTTONVAR47=bodyBgImg=sdf
L_BUTTONVAR48=bodyBgColor=#AEAEAE
L_BUTTONVAR49=headerHeight=70px
L_BUTTONVAR50=headerBgColor=#4B6BA1
L_BUTTONVAR51=PageTitleTextColor=Blue
L_BUTTONVAR52=PageCollapseBgColor=Blue
L_BUTTONVAR53=PageCollapseTextColor=Yellow
L_BUTTONVAR54=PageButtonBgColor=Blue
L_BUTTONVAR55=PageButtonBgColor=Blue
L_BUTTONVAR56=orderSummaryBgColor=#EDF2F7
L_BUTTONVAR57=orderSummaryBgImage=http://teamworks/scr_bg_ordersummary.jpg
L_BUTTONVAR58=footerTextColor=#333333
L_BUTTONVAR59=footerTextlinkColor=#00f00f
L_BUTTONVAR60=template=templateC
L_BUTTONVAR61=return=http://www.yourcompany.com
```

BMCreateButton API Operation

Use the BMCreateButton API operation to create Hosted Solution checkout button.

- BMCreateButton Request
- BMCreateButton Response
- BMCreateButton Errors

BMCreateButton Request

The request fields specify the characteristics of your button, which include associated menu items related to the button. You can specify up to 5 menu items, each of which can include up to 10 possible selections.

BMCreateButton Request Fields

NOTE: The values you pass must not contain any of these special characters (){}<>\";

Field	Description
METHOD	*(Required)* BMCreateButton
BUTTONCODE	*(Optional)* The kind of button code to create. It is one of the following values: • TOKEN - A secure button, not stored on PayPal, used only to initiate the Hosted Solution checkout flow; default for **Pay Now** button. Since version 65.2 • ENCRYPTED - An encrypted button, not stored on PayPal • CLEARTEXT - An unencrypted button, not stored on PayPal
BUTTONTYPE	*(Required)* The kind of button you want to create. PAYMENT - **Pay Now** button; since version 65.2
L_BUTTONVAR*n*	*(Optional)* HTML standard button variables

BMCreateButton Response

The response contains an ID if the button is hosted on PayPal, and code for HTML in a website and for a link in email.

BMCreateButton Response Fields

Field	Description
WEBSITECODE	HTML code for web pages
EMAILLINK	Code for URL for the Hosted Solution checkout flow
HOSTEDBUTTONID	ID of a Hosted Solution token

BMCreateButton Errors

Error Code	Short Message	Long Message	Correcting This Error...
10001	Internal Error	Internal Error	
11923	Invalid Argument	The button image value specified is invalid.	
11924	Invalid Argument	The button image URL specified is invalid.	
11925	Invalid Argument	The button type specified is invalid.	
11926	Invalid Data	One of the parameters specified using ButtonVar is invalid.	
11927	Invalid Argument	The buy now button text specified is invalid.	
11928	Invalid Argument	The email or merchant ID specified is invalid.	
11929	Invalid Data	A cart button must have an item name and amount specified.	
11931	Invalid Argument	The subscription button text specified is invalid.	
11932	Invalid Data	You must specify a corresponding number of entries for option names and selections.	
11933	Invalid Data	You cannot skip index numbers for option selections. Option selections must be specified sequentially.	

Error Code	Short Message	Long Message	Correcting This Error...
11934	Invalid Data	You must specify the same number of entries for option prices and selections.	
11936	Invalid Data	You cannot specify both an item price and prices for individual selections within an option.	
11937	Invalid Argument	A text box name specified is invalid. Text box names must not exceed 64 characters.	
11938	Invalid Argument	The button code value specified is invalid.	
11940	Invalid Argument	An option name specified is invalid. Option names must not exceed 64 characters.	
11941	Invalid Argument	An option selection value specified is invalid. Option selection values must not exceed 64 characters.	
11942	Invalid Argument	An option price value specified is invalid. Make sure any punctuation marks are in the correct places.	
11943	Invalid Argument	The button country value specified is invalid.	
11945	Invalid Data	The button country and language code combination specified is invalid.	
11947	Invalid Argument	The tax rate specified is invalid. Make sure any punctuation marks are in the correct places and value specified is in the range 0.0 to 100.	
11948	Invalid Argument	The amount specified is invalid. Make sure any punctuation marks are in the correct places.	
12210	Invalid Argument	The currency code value specified is invalid.	
13117	Invalid Argument	Subtotal amount is not valid.	
13118	Invalid Argument	Tax amount is not valid.	
13119	Invalid Argument	Handling amount is not valid.	
13120	Invalid Argument	Shipping amount is not valid.	

6 Testing Your Integration in Sandbox

The PayPal Sandbox is a self-contained environment within which you can prototype and test PayPal features. The PayPal Sandbox is an almost identical copy of the live PayPal website. Its purpose is to give developers a shielded environment for testing and integration purposes, and to help avoid problems that might occur while testing PayPal integration solutions on the live site. Before moving any PayPal-based application into production, you should test the application in the Sandbox to ensure that it functions as you intend and within the guidelines and standards set forth by the PayPal Developer Network (PDN).

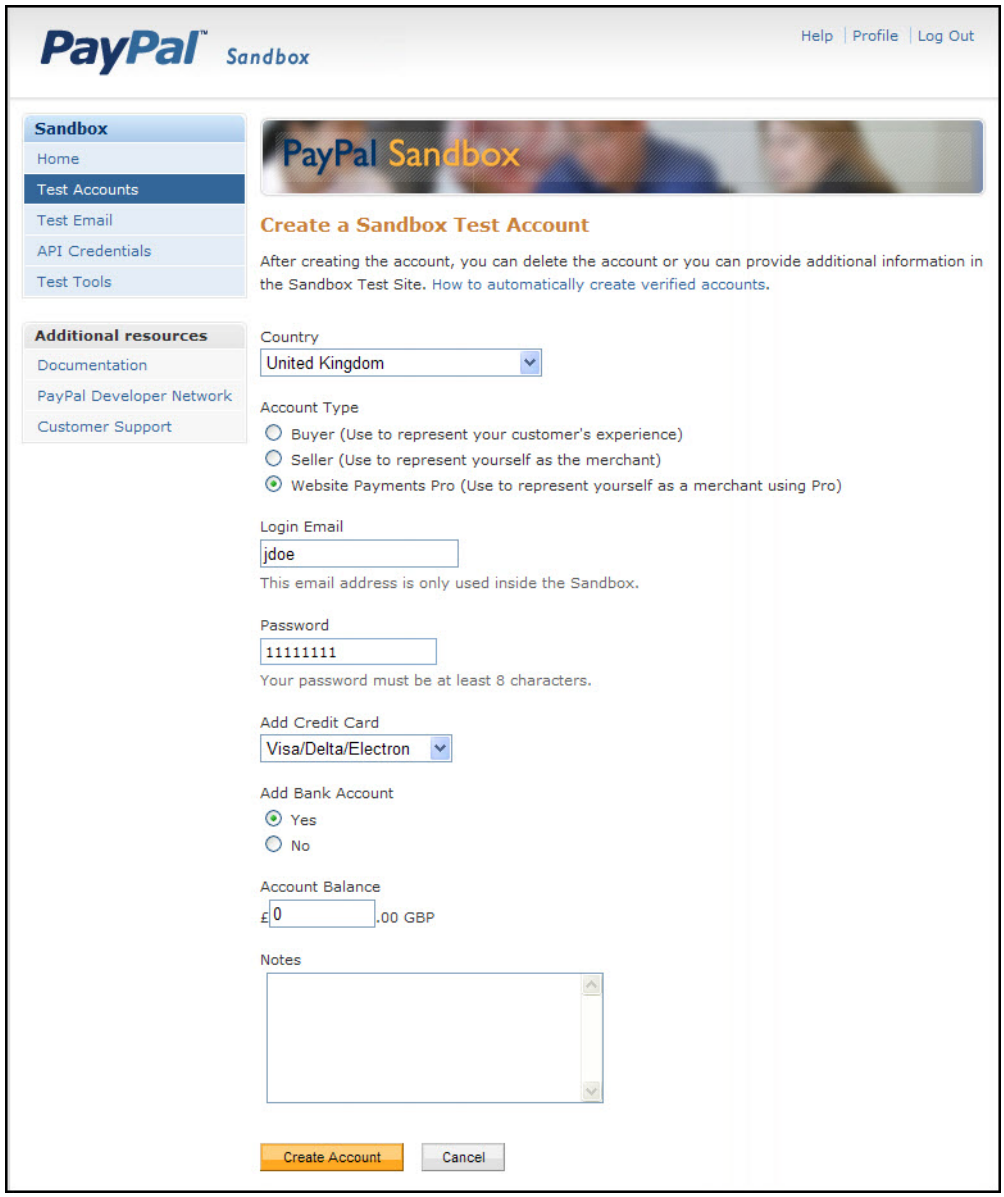
For complete details on using Sandbox, refer to Sandbox User Guide.

Creating a Preconfigured Account

When you log in to the Sandbox, the Sandbox Test Environment home page appears, as shown below:

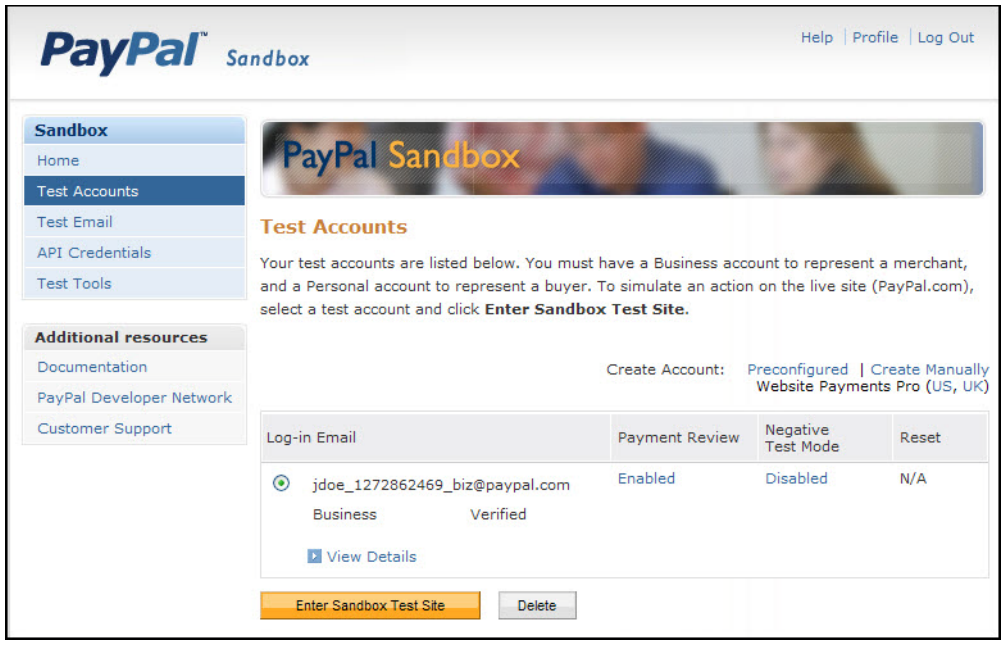
To test your Hosted Solution integration, create a preconfigured account using the following steps:

1. On the Sandbox Home page, under the **Test Accounts** section, and click **Create a preconfigured buyer or seller account**.
2. The Create a Sandbox Test Account page appears, as shown below:



3. Choose **United Kingdom** from the **Country** drop-down menu.
4. Select **Website Payments Pro** as the **Account Type**.
5. The Login Email and Password fields are pre-filled. The rest of the fields are optional so make the appropriate selections or accept the defaults.

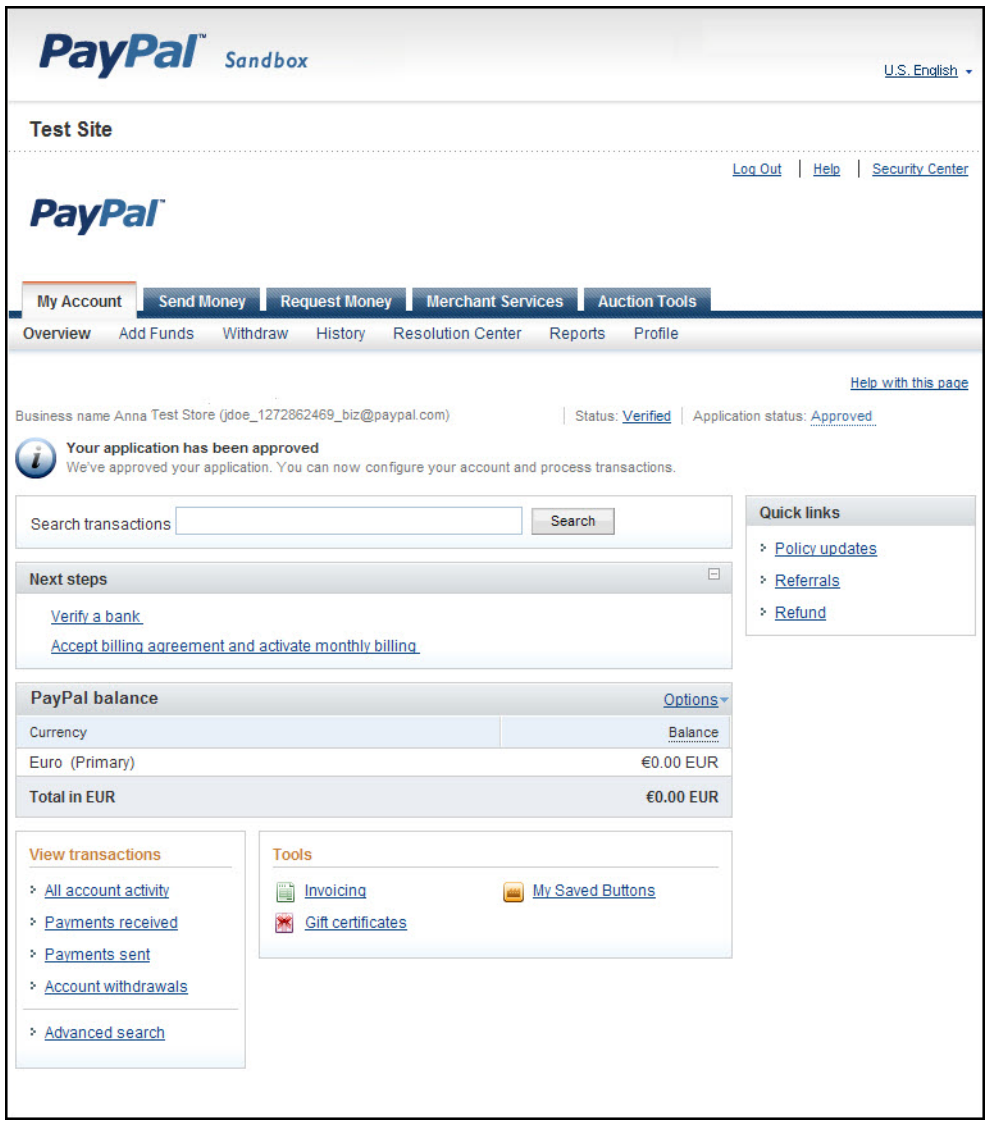
   NOTE: Make a note of the password as you will need it to log into the Sandbox Test Site.
6. Click **Create Account**. The following page confirms the creation of the test account:



NOTE: The login email is a pseudo-randomized address, which is based on the address you specified. Credit card and bank account numbers are also generated randomly, which are displayed when you click **View Details**.

7. Ensure that Payment Review is set to Enabled. In doing so, all transactions on this account are put into pending review state. You can then click accept or decline on the Transaction Details page to simulate the fraud agent's action.

8. Click **Enter Sandbox Test Site**. The Sandbox Test Site appears in a different browser window, as shown below. If you are not automatically logged in to the Sandbox Test Site, log in using the email address created for the test account as part of step 6 and the password you noted in step 5.



You are ready to test your Hosted Solution integration on the Sandbox Test Site.

Testing Your Integration and Settings

The following sections contain information for testing your integration and modifying the look and feel of your payment page in the Sandbox environment.

- Testing Your Integration
- Testing Your Settings

Testing Your Integration

To test your integration in the Sandbox environment, follow the steps specified in "Simple Hosted Solution Integration" on page 15. For testing purposes, you must make the following changes in the Form POST:

1. Change the URL to point to the Sandbox environment.

   From:

```
<form action="https://securepayments.paypal.com/acquiringweb"
method="post">
<input type="hidden" name="cmd" value="_hosted-payment">
```

   to:

```
<form action="https://securepayments.sandbox.paypal.com/acquiringweb"
method="post">
<input type="hidden" name="cmd" value="_hosted-payment">
```

2. Change the `business` value to the Secure Merchant ID value that is specified at the top of the Profile page of the Sandbox Test Site.

   Accordingly, the Form POST for testing purposes will be:

```
<form action="https://securepayments.sandbox.paypal.com/acquiringweb"
method="post">
<input type="hidden" name="cmd" value="_hosted-payment">
<input type="hidden" name="subtotal" value="50">
<input type="hidden" name="business" value="HNZ3QZMCPBAAA">
<input type="hidden" name="paymentaction" value="sale">
<input type="hidden" name="return"
value="https://yourwebsite.com/receipt_page.html">
<input type="submit" name="METHOD" value="Pay Now">
</form>
```

NOTE: For 3-D Secure, when prompted for credit card information on the payment page, enter 01/11 or 01/current year +1 for the expiry date.

Testing Your Settings

To change the look and feel of your payment page, modify the settings of the Customisation and Settings pages in the Profile section of the Sandbox Test Site. For complete details, refer to "Modifying Your PayPal Account Settings" on page 21.

7 Order Processing

This chapter walks you through the end of end order processing experience. It includes information about verifying the status and authenticity of the order before fulfilling it.

Verifying Transaction Status and Authenticity

When the buyer successfully completes a transaction, they are redirected either to the PayPal confirmation page or a website you specified in the `return` variable or on the Settings page in the Profile section (as outlined in "Simple Hosted Solution Integration" on page 15). When the browser is redirected to the website you specified, a Transaction ID is appended to it.

When you receive the redirect (URL with Transaction ID), you must verify that the order was completed successfully on PayPal before sending the items to the buyer. You can do so by checking the confirmation email sent to you by PayPal or by verifying the transaction history. You can also using one of the following methods:

Validate Instant Payment Notification (IPN)

IPN enables you to receive messages about transaction payments and activity from PayPal through asynchronous, server-to-server communication. This allows you to integrate your online payments with your order fulfillment process.

Through IPN, you receive messages for the following:

- Payments and their status (pending, complete, or denied)
- Fraud Management Filter actions
- Recurring Payment activity
- Authorisations, chargebacks, disputes, reversals, and refunds.

After a transaction has been processed, PayPal sends an IPN to the notification URL specified in your transaction using the parameter `notify_url`, or in your PayPal Profile. You must verify that the Transaction ID, transaction amount, and other order specific parameters such as Invoice ID that are sent in the IPN match with the information you have in your order processing system. For more details, refer to Instant Payment Notification Guide.

Execute a GetTransactionDetails API Call

Using `GetTransactionDetails` API, you can obtain information about a specific transaction.

If you are integrated with PayPal APIs, you can call `GetTransactionDetails` with the Transaction ID that was returned in the web redirect to validate the authenticity of the order.

For complete details, refer to "GetTransactionDetails API" on page 63.

Fulfilling Order

After you have verified the authenticity of the payment amount and status, you can fulfil the order by shipping the item to the buyer.

Optionally, you can also use the Transaction ID of transactions completed through Hosted Solution to perform refunds and captures using `RefundTransaction` and `DoCapture` APIs respectively. For complete details, refer to "RefundTransaction API" on page 73 and "DoCapture API" on page 74.

8 Protecting Buttons by Using Encrypted Website Payments

Using Encrypted Website Payments helps secure payment buttons that you generate or write manually. Encrypted Website Payments protects the HTML button code that contains pricing information by encrypting it. HTML button code that you protect by using Encrypted Website Payments cannot be altered by malicious third parties to create fraudulent payments.

Encrypted Website Payments relies on standard public key encryption for protection. With public and private keys, you can dynamically generate HTML code for payment buttons and encrypt the payment details before displaying the buttons on your website. The below table illustrates the sequence of actions that occur with payment buttons protected by using Encrypted Website Payments.

TABLE 8.1 How Encrypted Website Payments Works

Website Actions	Buyer Action	PayPal Action
Generate a public key for the website, upload it to PayPal, and download the PayPal public certificate to the website. **NOTE:** Do this action only once, when you first integrate Hosted Solution with your website.		
Generate HTML code for a payment button.		
Encrypt the generated code by using the PayPal public key and then signing the encrypted code with the website's private key.		
Publish the signed, encrypted HTML code for the payment button to the website	Click the published PayPal payment button.	Check the authenticity of the data by using the website's public key, which was previously uploaded to PayPal.
		Decrypt the protected button code by using the PayPal private key.
		Redirect the payer's browser to the appropriate PayPal checkout experience, as specified in the HTML variables of the decrypted button code.

Public Key Encryption Used by Encrypted Website Payments

Encrypted Website Payments uses public key encryption, or asymmetric cryptography, which provides security and convenience by allowing senders and receivers of encrypted communication to exchange public keys to unlock each others messages. The fundamental aspects of public key encryption are:

- **Public keys** – Public keys are created by receivers and are given to senders before they encrypt and send information. Public certificates comprise a public key and identity information, such as the originator of the key and an expiry date. Public certificates can be signed by certificate authorities, who guarantee that public certificates and their public keys belong to the named entities.

  You and PayPal exchange each others' public certificates.

- **Private keys** – Private keys are created by receivers are kept to themselves.

  You create a private key and keep it in your system. PayPal keeps its private key on its system.

- The **encryption process** – Senders use their private keys and receivers' public keys to encrypt information before sending it. Receivers use their private keys and senders' public keys to decrypt information after receiving it. This encryption process also uses digital signatures in public certificates to verify the sender of the information.

  You use your private key and PayPal's public key to encrypt your HTML button code. PayPal uses it's private key and your public key to decrypt button code after people click your payment buttons.

Setting Up Certificates Before Using Encrypted Website Payments

Do the following before you use Encrypted Website Payments to protect your payment buttons:

- Generating Your Private Key Using OpenSSL
- Generating Your Public Certificate Using OpenSSL
- Uploading Your Public Certificate to Your PayPal Account
- Downloading the PayPal Public Certificate from the PayPal Website

PayPal uses only X.509 public certificates, not public keys. A public key can be used for decryption but contains no information identifying who provided the key. A public certificate includes a public key along with information about the key, such as when the key expires and who the key belongs to. PayPal accepts public certificates in OpenSSL PEM format from any established certificate authority, such as VeriSign.

You can generate your own private key and public certificate using open source software such as OpenSSL (https://www.openssl.org), which is detailed in the following section.

Generating Your Private Key Using OpenSSL

Using the openssl program, enter the following command to generate your private key. The command generates a 1024-bit RSA private key that is stored in the file my-prvkey.pem:

```
openssl genrsa -out my-prvkey.pem 1024
```

Generating Your Public Certificate Using OpenSSL

The public certificate must be in PEM format. To generate your certificate, enter the following openssl command, which generates a public certificate in the file my-pubcert.pem:

```
openssl req -new -key my-prvkey.pem -x509 -days 365 -out my-pubcert.pem
```

Uploading Your Public Certificate to Your PayPal Account

To upload your public certificate to your PayPal account:

1. Log in to your PayPal account at https://www.paypal.co.uk
2. Click the **Profile** subtab.
3. In the **Hosted Payment Settings** column, click **Website Payment Certificates**.

   The Website Payment Certificates page appears.
4. Scroll down the page to the **Your Public Certificates** section, and click the Add button.

   The **Add Certificate** page appears.
5. Click **Browse**, and select the public certificate that you want to upload to PayPal from your local computer.

   NOTE: The file you upload must be in PEM format.
6. Click **Add**.

   After your public certificate is uploaded successfully, it appears in the Your Public Certificates section of the Website Payment Certificates page.
7. Store the certificate ID that PayPal assigned to your public certificate in a secure place. You need the certificate ID that PayPal assigned to encrypt your payment buttons by using the Encrypted Website Payments software provided by PayPal.

Downloading the PayPal Public Certificate from the PayPal Website

To download the PayPal public certificate:

1. Log in to your PayPal account at https://www.paypal.co.uk
2. Click the **Profile** subtab.
3. In the **Seller Preferences** column, click the **Encrypted Payment Settings** link.
4. Scroll down the page to the **PayPal Public Certificate** section.
5. Click **Download**, and save the file in a secure location on your local computer.

Removing Your Public Certificate

IMPORTANT: If you remove your public certificate, its associated certificate ID is no longer valid for encrypting buttons, and any buttons that you generated or wrote manually for your website that use the ID will not function correctly.

To remove one or more of your public certificates:

1. Log in to your PayPal account at https://www.paypal.co.uk
2. Click the **Profile** subtab.
3. In the **Seller Preferences** column, click the **Encrypted Payment Settings** link.
4. Scroll down the page to the **PayPal Public Certificate** section.
5. Select the radio button next to the certificate you want to remove, and click **Remove**.

   The **Remove Certificate** page appears.
6. Click **Remove** to confirm the removal of the public certificate that you selected.

Using Encrypted Website Payments to Protect Your Payment Buttons

Encrypted Website Payments includes Java and Microsoft Windows software to protect the payment buttons that you generate or write manually. Download the software from the following location after logging in to PayPal: https://www.paypal.com/us/cgi-bin/webscr?cmd=p/xcl/rec/ewp-code

After you download and extract the software, copy your private key, public certificate, p12 file and the PayPal public certificate to the folder where the software is located.

1. Prepare an input file of Hosted Solution variables and values for each encrypted button that you want to generate. Each variable and value must be on a separate line, as in the following example.

   NOTE: The cert_id variable identifies the public certificate you uploaded to PayPal website.

```
cert_id=Z24MFU6DSHBXQ
cmd=_xclick
business=sales@company.com
item_number=1234
custom=sc-id-789
amount=500.00
currency_code=USD
tax=41.25
shipping=20.00
address_override=true
address1=123 Main St
city=Austin
state=TX
zip=94085
country=US
no_note=1
cancel_return=http://www.company.com/cancel.htm
```

2. Run the encryption software using the appropriate syntax, as shown below:

   – **Java**: `PPEncrypt CertFile PrivKeyFile PPCertFile InputFile OutputFile [Sandbox]`
   – **Microsoft Windows**: `java ButtonEncryption CertFile PKCS12File PPCertFile Password InputFile OutputFile [Sandbox]`

where the argument is:

- **CertFile**: The pathname to your own public certificate
- **PKCS12File**: The pathname to the PKCS12-format of your own public certificate
- **PPCertFile**: The pathname to a copy of the PayPal public certificate
- **Password**: The passphrase to the PKCS12-format of your own public certificate
- **InputFile**: The pathname to file containing the non-encrypted Website Payments HTML Form variables
- **OutputFile**: A file name for the encrypted output
- **[Sandbox]**: The optional word Sandbox that lets you test payment buttons in the PayPal Sandbox that you protected with Encrypted Website Payments

3. Copy the encrypted code to your website.

Blocking Unprotected and Non-encrypted Website Payments

For extra security of your protected and encrypted buttons, update your PayPal account profile to block unprotected and non-encrypted payments.

To block payments from unprotected and non-encrypted Website Payments Standard buttons:

1. Log in to your PayPal account at https://www.paypal.co.uk
2. Click the **Profile** subtab.
3. In the **Seller Preferences** column, click the **Encrypted Payment Settings** link.
4. Scroll down to the **Encrypted Website Payments** section.
5. Next to the **Block Non-encrypted Website Payment** label, select the On radio button.
6. Scroll to the bottom of the page, and click **Save**.

A Optional API Operations

Using the Transaction ID, a number of PayPal API operations are available. The most commonly used for Hosted Solution are:

- GetTransactionDetails API
- RefundTransaction API
- DoCapture API

GetTransactionDetails API

Obtain information about a specific transaction.

- GetTransactionDetails Request
- GetTransactionDetails Response

GetTransactionDetails Request

TABLE A.1 GetTransactionDetails Request Fields

Field	Description
METHOD	Must be GetTransactionDetails.
TRANSACTIONID	(Required) Unique identifier of a transaction. **NOTE:** The details for some kinds of transactions cannot be retrieved withGetTransactionDetails. You cannot obtain details of bank transfer withdrawals, for example. **Character length and limitations -** 17 single-byte alphanumeric characters.

GetTransactionDetails Response

NOTE: All fields defined in the formal structure of GetTransactionDetails Response are not necessarily returned. Data is returned in a response only if PayPal has recorded data that corresponds to the field.

- Receiver Information Fields
- Payer Information Fields
- Payer Name Fields
- Address Fields
- Payment Information Fields
- Payment Item Information Fields
- Payment Item Fields
- Auction Fields
- Subscription Term Fields

Receiver Information Fields

TABLE A.2 Receive Information Fields

Field	Description
RECEIVERMAIL	Primary email address of the payment recipient (the seller). If you are the recipient of the payment and the payment is sent to your non-primary email address, the value of Receiver is still your primary email address. **Character length and limitations -** 127 single-byte alphanumeric characters
RECEIVERID	Unique account ID of the payment recipient (the seller). This value is the same as the value of the recipient's referral ID.

Payer Information Fields

TABLE A.3 Payer Information Fields

Field	Description
EMAIL	Email address of payer. **Character length and limitations -** 127 single-byte characters
PAYERID	Unique PayPal customer account identification number. **Character length and limitations -** 13 single-byte alphanumeric characters.
PAYERSTATUS	Status of payer. Valid values are: • verified • unverified **Character length and limitations -** 10 single-byte alphabetic characters.
SHIPTOCOUNTRYCODE	Payer's country of residence in the form of ISO standard 3166 two-character country codes. **Character length and limitations -** Two single-byte characters
PAYERBUSINESS	Payer's business name. **Character length and limitations -** 127 single-byte characters

Payer Name Fields

TABLE A.4 Payer Name Fields

Field	Description
SALUTATION	Payer's salutation. **Character length and limitations -** 20 single-byte characters
FIRSTNAME	Payer's first name. **Character length and limitations -** 25 single-byte alphanumeric characters.
MIDDLENAME	Payer's middle name. **Character length and limitations -** 25 single-byte alphanumeric characters.
LASTNAME	Payer's last name. **Character length and limitations -** 25 single-byte alphanumeric characters.

TABLE A.4 Payer Name Fields

Field	Description
SUFFIX	Payer's suffix. **Character length and limitations -** 12single-byte alphanumeric characters.

Address Fields

TABLE A.5 Address Fields

Field	Description
ADDRESSOWNER	eBay company that maintains this address. **Valid values are:** • eBay • PayPal
ADDRESSSTATUS	Status of street address on file with PayPal. **Valid values are:** • none • Confirmed • Unconfirmed
SHIPTONAME	Person's name associated with this address **Character length and limitations -** 32 single-byte characters.
SHIPTOSTREET	First street address **Character length and limitations -** 100 single-byte characters.
SHIPTOSTREET2	Second street address **Character length and limitations -** 100 single-byte characters.
SHIPTOCITY	Name of the city **Character length and limitations -** 100 single-byte characters.
SHIPTOSTATE	State or province **Character length and limitations -** 40 single-byte characters.
SHIPTOZIP	US zip code or other country-specific postal code. **Character length and limitations -** 40 single-byte characters.
SHIPTOCOUNTRYCODE	Expanded name of country **Character length and limitations -** 20 single-byte characters.
SHIPTOPHONENUMBER	Country code. **Character length and limitations -** two single-byte characters.
SHIPTOPHONENUM	Country code. **Character length and limitations -** Two single-bye characters.

Payment Information Fields

TABLE A.6 Payment Information Fields

Field	Description
TRANSACTIONID	Unique transaction ID of the payment. Character length and limitations: 17 single-byte characters
PARENTTRANSACTIONID	Parent or related transaction identification number. This field is populated for the following transaction types: • **Reversal -** Capture of an authorised transaction. • **Reversal -** Reauthorisation of a transaction. • **Capture of an order -** The value of ParentTransactionID is the original OrderID. • **Authorisation of an order** - The value of ParentTransactionID is the original OrderID. • **Capture of an order authorisation**. • **Void of an order -** The value of ParentTransactionID is the original OrderID. **Character length and limitations -** 16 digits in xxxx-xxxx-xxxx-xxxx format
RECEIPTID	Receipt identification number **Character length and limitations -** 16 digits in xxxx-xxxx-xxxx-xxxx format
TRANSACTIONTYPE	The type of transaction Valid values: • cart • express-checkout **Character length and limitations -** 15 single-byte characters
PAYMENTTYPE	Indicates whether the payment is instant or delayed. **Character length and limitations -** Seven single-byte characters Valid values: • none • echeck • instant
ORDERTIME	Time/date stamp of payment. For example: 2006-08-15T17:23:15Z.
AMT	The final amount charged, including any shipping and taxes from your Merchant Profile. **Character length and limitations -** Does not exceed $10,000 USD in any currency. No currency symbol. Regardless of currency, decimal separator is a period (.), and the optional thousands separator is a comma (,). Equivalent to nine characters maximum for USD.
CURRENCYCODE	A three-character currency code.

TABLE A.6 Payment Information Fields

Field	Description
FEEAMT	PayPal fee amount charged for the transaction **Character length and limitations -** Does not exceed $10,000 USD in any currency. No currency symbol. Regardless of currency, decimal separator is a period (.), and the optional thousands separator is a comma (,). Equivalent to nine characters maximum for USD.
SETTLEAMT	Amount deposited in your PayPal account after a currency conversion.
TAXAMT	Tax charged on the transaction. **Character length and limitations -** Does not exceed $10,000 USD in any currency. No currency symbol. Regardless of currency, decimal separator is a period (.), and the optional thousands separator is a comma (,). Equivalent to nine characters maximum for USD.
EXCHANGERATE	Exchange rate if a currency conversion occurred. Relevant only if your are billing in their non-primary currency. If the customer chooses to pay with a currency other than the non-primary currency, the conversion occurs in the customer's account. **Character length and limitations -** a decimal that does not exceed 17 characters, including decimal point.

TABLE A.6 Payment Information Fields

Field	Description
PAYMENTSTATUS	Status of the payment. The status of the payment: • **None** - No status • **Canceled-Reversal** - A reversal has been canceled; for example, when you win a dispute and the funds for the reversal have been returned to you. • **Completed** - The payment has been completed, and the funds have been added successfully to your account balance. • **Denied** - You denied the payment. This happens only if the payment was previously pending because of possible reasons described for the PendingReason element. • **Expired** - the authorisation period for this payment has been reached. • **Failed** - The payment has failed. This happens only if the payment was made from your customer's bank account. • **In-Progress** - The transaction has not terminated, e.g. an authorisation may be awaiting completion. • **Partially-Refunded -** The payment has been partially refunded. • **Pending** - The payment is pending. See the PendingReason field for more information. • **Refunded** - You refunded the payment. • **Reversed** - A payment was reversed due to a chargeback or other type of reversal. The funds have been removed from your account balance and returned to the buyer. The reason for the reversal is specified in the ReasonCode element. • **Processed** - A payment has been accepted. • **Voided** - An authorisation for this transaction has been voided.

TABLE A.6 Payment Information Fields

Field	Description
PENDINGREASON	**NOTE:** PendingReason is returned in the response only if PaymentStatus is Pending. The reason the payment is pending: • **none** - No pending reason. • **address** - The payment is pending because your customer did not include a confirmed shipping address and your Payment Receiving Preferences is set such that you want to manually accept or deny each of these payments. To change your preference, go to the Preferences section of your Profile. • **authorisation** - The payment is pending because it has been authorised but not settled. You must capture the funds first. • **echeck** - The payment is pending because it was made by an eCheck that has not yet cleared. • **intl** - The payment is pending because you hold a non-U.S. account and do not have a withdrawal mechanism. You must manually accept or deny this payment from your Account Overview. • **multi-currency** - You do not have a balance in the currency sent, and you do not have your Payment Receiving Preferences set to automatically convert and accept this payment. You must manually accept or deny this payment. • **order** - The payment is pending because it is part of an order that has been authorised but not settled. • **paymentreview** - The payment is pending while it is being reviewed by PayPal for risk. • **unilateral** - The payment is pending because it was made to an email address that is not yet registered or confirmed. • **verify** - The payment is pending because you are not yet verified. You must verify your account before you can accept this payment. • **other** - The payment is pending for a reason other than those listed above. For more information, contact PayPal customer service.
REASONCODE	The reason for a reversal if TransactionType is reversal: • **none -** No reason code • **chargeback -** A reversal has occurred on this transaction due to a chargeback by your customer. • **guarantee -** A reversal has occurred on this transaction due to your customer triggering a money-back guarantee. • **buyer-complaint -** A reversal has occurred on this transaction due to a complaint about the transaction from your customer. • **refund -** A reversal has occurred on this transaction because you have given the customer a refund. • **other** - A reversal has occurred on this transaction due to a reason not listed above.

TABLE A.6 Payment Information Fields

Field	Description
PROTECTIONELIGIBILITY	Since version 64.4, the kind of seller protection in force for the transaction, which is one of the following values: • **Eligible** – Seller is protected by PayPal's Seller Protection Policy for Unauthorised Payments and Item Not Received • **ItemNotReceivedEligible** – Seller is protected by PayPal's Seller Protection Policy for Item Not Received • **UnauthorizedPaymentEligible** – Seller is protected by PayPal's Seller Protection Policy for Unauthorized Payment • **Ineligible** – Seller is not protected under the Seller Protection Policy

Payment Item Information Fields

TABLE A.7 Payment Item Information Fields

Field	Description
INVNUM	Invoice number you set in the original transaction. **Character length and limitations -** 127 single-byte alphanumeric characters
CUSTOM	Custom field you set in the original transaction. **Character length and limitations -** 127 single-byte alphanumeric characters
NOTE	Memo entered by your customer in PayPal Website Payments note field. **Character length and limitations -** 255 single-byte alphanumeric characters
SALESTAX	Amount of tax charged on payment.

Payment Item Fields

TABLE A.8 Payment Item Fields

Field	Description
L_DESCn	Amount of tax charged on payment. These parameters must be ordered sequentially beginning with 0 (for example L_DESC0, L_DESC1).
L_NUMBERn	Item number set by you. If this was a shopping cart transaction, PayPal appends the number of the item to the HTML item_number variable. For example, item_number1, item_number2, and so forth. **Character length and limitations -** 127 single-byte alphanumeric characters. These parameters must be ordered sequentially beginning with 0 (for example L_NUMBER0, L_NUMBER1).
L_QTYn	Quantity set by you or entered by the customer. **Character length and limitations -** no limit
L_AMTn	Cost of item. These parameters must be ordered sequentially beginning with 0 (for example L_AMT0, L_AMT1).
L_OPTIONSNAMEn	PayPal option names for an item in the shopping cart; each name corresponds to an option value. There can be multiple option names per item. The option names are ordered sequentially beginning with 0 (for example,L_OPTIONSNAMES0, L_OPTIONSNAME1).
L_OPTIONSVALUEn	PayPal option values corresponding to option names of an item in the shopping cart. The option names are ordered sequentially beginning with 0 (for example,L_OPTIONSVALUE0, L_OPTIONSVALUE1).

Auction Fields

TABLE A.9 Auction Fields

Field	Description
BUYERID	Customer's auction ID
CLOSINGDATE	Auction's close date
MULTIITEM	Counter used for multi-item auction payments

Subscription Term Fields

TABLE A.10 Subscription Terms Fields

Field	Description
AMT	The amount subscriber is to be charged in one payment. Character length and limitations: no limit
PERIOD	The period of time that the subscriber will be charged. Character length and limitations: no limit

RefundTransaction API

Issue a refund to the PayPal account holder associated with a transaction.

- RefundTransaction Request
- RefundTransaction Response

RefundTransaction Request

TABLE A.11 RefundTransaction Request Fields

Field	Description
METHOD	Must be RefundTransaction.
TRANSACTIONID	(Required) Unique identifier of a transaction. **Character length and limitations -** 17 single-byte alphanumeric characters.
REFUNDTYPE	(Required) Type of refund you are making: • Other • Full • Partial
AMT	Refund amount. Amount is required if RefundType is Partial. **NOTE:** If RefundType is Full, do not set the Amount.
NOTE	(Optional) Custom memo about the refund. **Character length and limitations -** 255 single-byte alphanumeric characters.

RefundTransaction Response

TABLE A.12 RefundTransaction Response Fields

Field	Description
REFUNDTRANSACTIONID	Unique transaction ID of the refund. **Character length and limitations -** 17 single-byte alphanumeric characters.
FEEREFUNDAMT	Transaction fee refunded to original recipient of payment.
GROSSREFUNDAMT	Amount of money refunded to original payer.
NETREFUNDAMT	Amount subtracted from PayPal balance of original recipient of payment to make this refund.

DoCapture API

Capture an authorized payment.

- DoCapture Request
- DoCapture Response

DoCapture Request

TABLE A.13 DoCapture Request Fields

Field	Description
METHOD	(Required) Must be DoCapture.
AUTHORIZATIONID	(Required) The authorisation identification number of the payment you want to capture.This is the transaction id returned from DoExpressCheckoutPayment or DoDirectPayment. **Character length and limitations -** 19 single-byte characters maximum.
AMT	(Required) Amount to capture. **Limitations** - Value is a positive number which cannot exceed $10,000 USD in any currency. No currency symbol. Must have two decimal places, decimal separator must be a period (.), and the optional thousands separator must be a comma (,).
CURRENCYCODE	(Optional) A three-character currency code. Default: USD.

TABLE A.13 DoCapture Request Fields

Field	Description
COMPLETETYPE	(Required) The value Complete indicates that this the last capture you intend to make. The value NotComplete indicates that you intend to make additional captures. **NOTE:** If Complete, any remaining amount of the original authorised transaction is automatically voided and all remaining open authorisations are voided. **Character length and limitations -** 12 single-byte alphanumeric characters.
INVNUM	(Optional) Your invoice number or other identification number that is displayed to the merchant and customer in his transaction history. **NOTE:** This value on DoCapture will overwrite a value previously set on DoAuthorisation. **NOTE:** The value is recorded only if the authorisation you are capturing is an order authorisation, not a basic authorisation. **Character length and limitations -** 127 single-byte alphanumeric characters
NOTE	(Optional) An informational note about this settlement that is displayed to the payer in email and in his transaction history. **Character length and limitations -** 255 single-byte characters.

TABLE A.13 DoCapture Request Fields

Field	Description
SOFTDESCRIPTOR	(Optional) The soft descriptor is a per transaction description of the payment that is passed to the consumer's credit card statement. If a value for the soft descriptor field is provided, the full descriptor displayed on the customer's statement has the following format: <PP * | PAYPAL*><Merchant descriptor as set in the Payment Receiving Preferences><1space><soft descriptor> The soft descriptor can contain only the following characters. ● Alphanumeric characters ● - (dash) ● * (asterisk) ● . (period) ● {space} If you use any other characters (such as ","), an error code is returned. The soft descriptor does not include the phone number, which can be toggled between the merchant's customer service number and PayPal's customer service number. The maximum length of the total soft descriptor is 22 characters. Of this, either 4 or 8 characters are used by the PayPal prefix shown in the data format. Thus, the maximum length of the soft descriptor passed in the API request is: 22- len(<PP * | PAYPAL *>) - len(<Descriptor set in Payment ReceivingPreferences> + 1) For example, assume the following conditions: ● The PayPal prefix toggle is set to PAYPAL* in PayPal's admin tools. ● The merchant descriptor set in the Payment Receiving Preferences is set to EBAY. ● The soft descriptor is passed in as JanesFlowerGifts LLC. The resulting descriptor string on the credit card would be: PAYPAL*EBAY JanesFlow

DoCapture Response

- DoCapture Response Fields
- PayerInfo Type Fields
- Ship To Address Fields
- Payer Name Fields

NOTE: If you use version 56.0 or later of the DoCapture API,only the authorisation ID, transaction ID, transaction type, paymentdate, gross amount and payment status are guaranteed to be returned.If you need the values of other fields and they are not returned,you can obtain their values later by calling GetTransactionDetails or by using the reporting. mechanism.

DoCapture Response Fields

TABLE A.14 DoCapture Response Fields

Field	Description
AUTHORIZATIONID	The authorisation identification number you specified in the request. **Character length and limitations -** 19 single-byte characters maximum.

PayerInfo Type Fields

TABLE A.15 PayerInfo Type Fields

Field	Description
EMAIL	Email address of payer. **Character length and limitations -** 127 single-byte characters.
PAYERID	Unique PayPal customer account identification number. **Character length and limitations -** 13 single-byte alphanumeric characters.
PAYERSTATUS	Status of payer. Valid values are: • verified • unverified **Character length and limitations -** 10 single-byte alphabetic characters.
COUNTRYCODE	Payer's country of residence in the form of ISO standard 3166 two-character country codes. **Character length and limitations -** Two single-byte characters.

TABLE A.15 PayerInfo Type Fields

Field	Description
BUSINESS	Payer's business name. **Character length and limitations -** 127 single-byte characters.

Ship To Address Fields

TABLE A.16 Ship To Address Fields

Field	Description
ADDRESSSTATUS	Status of street address on file with PayPal. Valid values are: • none • Confirmed • Unconfirmed
SHIPTONAME	Person's name associated with this address. **Character length and limitations -** 32 single-byte characters.
SHIPTOSTREET	First street address. **Character length and limitations -** 100 single-byte characters.
SHIPTOSTREET2	Second street address. **Character length and limitations -** 100 single-byte characters.
SHIPTOCITY	Name of city. **Character length and limitations -** 40 single-byte characters.
SHIPTOSTATE	State or province. **Character length and limitations -** 40 single-byte characters.
SHIPTOZIP	Required for U.S. addresses only. U.S. ZIP code or other country-specific postal code. **Character length and limitations -** 20 single-byte characters.
SHIPTOCOUNTRYCODE	Country code. **Character length and limitations -** Two single-byte characters.

Payer Name Fields

TABLE A.17 Payer Name Fields

Field	Description
SALUTATION	Payer's salutation. **Character length and limitations -** 20 single-byte characters.
FIRSTNAME	Payer's first name. **Character length and limitations -** 25 single-byte characters.
MIDDLENAME	Payer's middle name. **Character length and limitations -** 25 single-byte characters.
LASTNAME	Payer's last name **Character length and limitations -** 25 single-byte characters.
SUFFIX	Payer's suffix **Character length and limitations -** 12 single-byte characters.

B Moving from Website Payments Standard to Hosted Solution

If you are moving from Website Payment Standard to Hosted Solution, you must make the following changes:

1. In the FORM tag, change the `cmd` value in the action attribute

   from:

   ```
   <form action="https://www.paypal.com/cgi-bin/webscr" method="post">
   <input type="hidden" name="cmd" value="_xclick">
   ```

   to:

   ```
   <form
   action="https://securepayments.paypal.com/acquiringweb?cmd=_hosted-
   payment" method="post"><input type="hidden" name="cmd" value="_hosted-
   payment">
   ```

2. Change HTML variable `amount` to `subtotal`.

   NOTE: Website Payment Standard has separate values for `amount` and `quantity`, whereas Hosted Solution uses `subtotal` only. Ensure that the subtotal includes the amount you want to charge the buyer, taking into account any applicable discount and the quantity of items.

3. If you have already customised your checkout flow, such as color and background, you will need to redo those settings for Hosted Solution. For more information about customising the look and feel of your payment page, refer to Chapter 3, “Customising Your PayPal Payment Page.

Sample Code Comparison

Below is a comparison of Website Payment Standard code and Hosted Solution code.

NOTE: In the samples below, note that for Website Payment Standard, `amount` and `quantity` are specified as 10 and 2 respectively. For Hosted Solution, the `subtotal` is 20, which is the product of the above-mentioned `amount` and `quantity`. This is highlighted in bold below.

Sample Website Payments Standard Code

```
<form action="https://www.paypal.com/cgi-bin/webscr" method="post">
<input type="hidden" name="cmd" value="_xclick">
<input type="hidden" name="business" value="seller@designerfotos.com">
<input type="hidden" name="amount" value="10">
<input type="hidden" name="quantity" value="2">
<input type="hidden" name="tax" value="1">
<input type="hidden" name="currency_code" value="USD">
<input type="hidden" name=" invoice" value="MEM32507725">
<!-- Enable override of payer's stored PayPal address. -->
<input type="hidden" name="address_override" value="1">
<!-- Set prepopulation variables to override stored address. -->
<input type="hidden" name="first_name" value="John">
<input type="hidden" name="last_name" value="Doe">
<input type="hidden" name="address1" value="345 Lark Ave">
<input type="hidden" name="city" value="San Jose">
<input type="hidden" name="state" value="CA">
<input type="hidden" name="zip" value="95121">
<input type="hidden" name="country" value="US">
<input type="hidden" name="bn" value="CC_Partner_WPS">
<input type="hidden" name="notify_url" value="https://www.paypal.com/IPN/">
<input type="image" name="submit" border="0"
src="https://www.paypal.com/img.gif ">
</form>
```

Sample Hosted Solution Code

```
<form action="https://securepayments.paypal.com/acquiringweb?cmd=_hosted-
payment" method="post"><input type="hidden" name="cmd" value="_hosted-
payment">
<input type="hidden" name="business" value="HNZ3QZMCPBAAA">
<input type="hidden" name="subtotal" value="20">
<input type="hidden" name="paymentaction" value="sale">
<input type="hidden" name="currency_code" value="USD">
<input type="hidden" name="invoice" value="MEM32507725">
<input type="hidden" name="template" value="TemplateB">
<!-- Enable override of payer's stored PayPal address. -->
<input type="hidden" name="address_override" value="true">
<input type="hidden" name="showShippingAddress" value="false">
<!-- Set prepopulation variables to override stored address. -->
<input type="hidden" name="first_name" value="John">
<input type="hidden" name="last_name" value="Doe">
<input type="hidden" name="address1" value="345 Lark Ave">
```

```
<input type="hidden" name="city" value="San Jose">
<input type="hidden" name="state" value="CA">
<input type="hidden" name="zip" value="95121">
<input type="hidden" name="country" value="US">
<input type="hidden" name="billing_first_name" value="John">
<input type="hidden" name=" billing_last_name" value="Doe">
<input type="hidden" name=" billing_address1" value="345 Lark Ave">
<input type="hidden" name=" billing_city" value="San Jose">
<input type="hidden" name=" billing_state" value="CA">
<input type="hidden" name=" billing_zip" value="95121">
<input type="hidden" name=" billing_country" value="US">
<input type="hidden" name="bn" value="CC_Partner_H3S">
<input type="hidden" name="notify_url" value="https://www.paypal.com/IPN/">
<input type="image" name="submit" border="0"
src="https://www.paypal.com/img.gif ">
</form>
```

C Error Messages

The table below lists error codes and the appropriate correction action.

TABLE C.1 Error Codes and the Corresponding Corrective Actions

Error Code	Error Message	Corrective Action
10001	Your payment can't be processed right now. Please try again later.	Try again later.
10004	Your payment can't be processed. Please contact the merchant directly with this code.	There is a problem with your integration. Check the parameters that you have supplied.
10009	Your payment can't be processed. Please contact the merchant directly with this code.	Try again later.
10010	Your payment can't be processed. Please contact the merchant directly with this code.	Provide a valid invoice ID.
10413	Your payment can't be processed. Please contact the merchant directly with this code.	Subtotal, shipping, handling, and tax. Review the totals in your integration.
10500	Your payment can't be processed. Please contact the merchant directly with this code.	You have not agreed to the billing agreement.
10501	Your payment can't be processed. Please contact the merchant directly with this code.	Billing agreement is disabled or inactive.
10502	Your credit card has expired. Please pay with a valid card.	Credit card used has expired.
10504	Please enter a valid card security code.	CVV provided is invalid. The CVV is between 3-4 digits long.

TABLE C.1 Error Codes and the Corresponding Corrective Actions *(Continued)*

Error Code	Error Message	Corrective Action
10505	Your payment can't be processed. Please contact the merchant directly with this code.	Transaction was refused because the AVS response returned the value of N, and the merchant account is not able to accept such transactions.
10507	Your payment can't be processed. Please contact the merchant directly with this code.	Your PayPal account is restricted. Contact PayPal with this error code.
10508	Please enter a valid card expiration date.	Expiration date must be in the correct format.
10509	Your payment can't be processed. Please contact the merchant directly with this code.	PayPal was unable to determine the IP address of the buyer.
10511	Your payment can't be processed. Please contact the merchant directly with this code.	Review the integration to ensure that a valid PaymentAction value is supplied.
10512	Please enter a first name.	First name of the buyer is required.
10513	Please enter a last name.	Last name of the buyer is required.
10520	Your payment can't be processed. Please contact the merchant directly with this code.	Amounts supplied do not match.
10523	Your payment can't be processed right now. Please try again later.	Try again later.
10525	Please enter a valid amount.	Verify your integration to ensure that the amounts are not zero.
10527	Please enter a valid card number.	Credit card entered is invalid.
10534	Your payment can't be processed. Please contact the merchant directly with this code.	Credit card entered is currently restricted by PayPal. Contact PayPal with this error code.
10535	Please enter a valid credit card number.	Credit card entered is invalid.

TABLE C.1 Error Codes and the Corresponding Corrective Actions *(Continued)*

Error Code	Error Message	Corrective Action
10536	Your payment can't be processed. Please contact the merchant directly with this code.	All shopping cart items must be in the same currency.
10537	Your payment can't be processed. Please contact the merchant directly with this code.	Transaction was declined by the country filter managed by the merchant. To accept this transaction, change your risk settings on PayPal.
10538	Your payment can't be processed. Please contact the merchant directly with this code.	Transaction was declined by the maximum amount filter managed by the merchant. To accept this transaction, change your risk settings on PayPal.
10539	Your payment can't be processed. Please contact the merchant directly with this code.	Transaction was declined by fraud filter managed by the merchant. To accept this translation, change your risk settings on PayPal.
10540	Please enter a valid address.	Transaction was declined by PayPal because of an invalid address. Buyer should provide the correct address.
10541	Please enter a valid credit card number.	Credit card entered is currently restricted by PayPal. Contact PayPal with this error code.
10542	Please enter a valid email address.	Email address is in an invalid format. Buyer should provide the email address in the correct format.
10544	Your payment can't be processed. Please contact the merchant directly with this code.	Transaction was declined by PayPal. Contact PayPal with this error code.
10545	Your payment can’t be processed. Please pay with another credit card.	Transaction was declined by PayPal because of possible fraudulent activity. Contact PayPal with this error code.
10546	Your payment can't be processed. Please contact the merchant directly with this code.	Transaction was declined by PayPal because of possible fraudulent activity on the IP address. Contact PayPal with this error code.
10547	Your payment can't be processed. Please contact the merchant directly with this code.	None - this is a PayPal internal error.

TABLE C.1 Error Codes and the Corresponding Corrective Actions *(Continued)*

Error Code	Error Message	Corrective Action
10548	Your payment can't be processed. Please contact the merchant directly with this code.	Merchant account attempting the transaction is not a business account at PayPal. Check your account settings.
10549	Your payment can't be processed. Please contact the merchant directly with this code.	Merchant account attempting the transaction is not able to process Direct Payment transactions. Contact PayPal with this error code.
10550	Your payment can't be processed. Please contact the merchant directly with this code.	Access to Direct Payment was disabled for your account. Contact PayPal with this error code.
10552	Your payment can't be processed. Please contact the merchant directly with this code.	Merchant account attempting the transaction does not have a confirmed email address with PayPal. Check your account settings.
10553	Your payment can't be processed. Please contact the merchant directly with this code.	Merchant attempted a transaction where the amount exceeded the upper limit for that merchant.
10554	Your payment can't be processed. Please contact the merchant directly with this code.	Transaction was declined because of a risk filter for AVS. Specifically, the merchant has set to decline transaction when the AVS returned a no match (AVS = N).
10555	Your payment can't be processed. Please contact the merchant directly with this code.	Transaction was declined because of a risk filter for AVS. Specifically, the merchant has set to decline transaction when the AVS returned a partial match.
10556	Your payment can't be processed. Please contact the merchant directly with this code.	Transaction was declined because of a risk filter for AVS. Specifically, the merchant has set to decline transaction when the AVS was unsupported.
10557	Your payment can't be processed. Please contact the merchant directly with this code.	Check your payment receiving preferences. Contact PayPal if you more help.
10558	Your payment can't be processed. Please contact the merchant directly with this code.	Credit card supplied cannot be charged in the currency requested.

TABLE C.1 Error Codes and the Corresponding Corrective Actions *(Continued)*

Error Code	Error Message	Corrective Action
10560	Please enter a valid card issue number.	Buyer should enter a valid card number.
10561	Please enter a complete billing address.	Buyer should enter the complete billing address.
10562	Please enter a valid year for the credit card expiration date.	Buyer should enter a valid year for card expiration.
10563	Please enter a valid month for the credit card expiration date.	Buyer should enter a valid month for card expiration.
10564	Your payment can't be processed. Please contact the merchant directly with this code.	A duplicate transaction was detected, advice buyer to try again later.
10565	Your payment can't be processed. Please contact the merchant directly with this code.	Merchant country is not supported.
10566	Your payment can't be processed. Please pay with a different card type.	Credit card type is not supported.
10567	Please enter an issue number or a start date.	Buyer should enter an issue number or a start date.
10570	Your payment can’t be processed. Please pay with another credit card.	Credit card supplied doesn’t support “Authorization”.
10701	Please enter a valid name for the billing address.	Buyer should enter a valid name in the billing address.
10702	Please enter a valid address in line 1 of the billing address.	Buyer should enter a valid address in line 1 of the billing address.
10703	Please enter a valid address in line 2 of the billing address.	Buyer should enter a valid address in line 2 of the billing address.
10704	Please enter a valid city in the billing address.	Buyer should enter a valid city in the billing address.
10705	Please enter a valid state in the billing address.	Buyer should enter a valid state in the billing address.

TABLE C.1 Error Codes and the Corresponding Corrective Actions *(Continued)*

Error Code	Error Message	Corrective Action
10706	Please enter a valid ZIP code in the billing address.	Buyer should enter a valid zip code in the billing address.
10707	Please enter a valid country in the billing address.	Buyer should enter a valid country in the billing address.
10708	Please enter a complete billing address.	Buyer should enter the complete billing address.
10709	Please enter an address in line 1 of the billing address.	Buyer should enter an address in line 1 of the billing address.
10710	Please enter a city in the billing address.	Buyer should enter a city in the billing address.
10711	Please enter a state in the billing address.	Buyer should enter a state in the billing address.
10712	Please enter a valid postal code in the billing address.	Buyer should enter a valid zip code in the billing address.
10713	Please enter a country in the billing address.	Buyer should enter a country in the billing address.
10714	Please enter a valid name in the billing address.	Buyer should enter a valid name in the billing address.
10715	Please enter a valid state in the billing address.	Buyer should enter a valid state in the billing address.
10716	Please enter a valid postal code in the billing address.	Buyer should enter a valid zip code in the billing address.
10717	Please enter a valid postal code in the billing address.	Buyer should enter a valid zip code in the billing address.
10718	Please enter a valid city in the billing address.	Buyer should enter a valid city.
10719	Please enter a valid addressee name in the shipping address.	Buyer should enter a valid addressee name for shipping address.
10720	Please enter a valid address in line 1 of the shipping address.	Buyer should enter a valid address in line 1 of the shipping address.
10721	Please enter a valid address in line 2 of the shipping address.	Buyer should enter a valid address in line 2 of the shipping address.
10722	Please enter a valid city in the shipping address.	Buyer should enter a valid city in the shipping address.

TABLE C.1 Error Codes and the Corresponding Corrective Actions *(Continued)*

Error Code	Error Message	Corrective Action
10723	Please enter a valid state in the shipping address.	Buyer should enter a valid state in the shipping address.
10724	Please enter a valid postal code in the shipping address.	Buyer should enter a valid postal code in the shipping address.
10725	Please enter a valid country in the shipping address.	Buyer should enter a valid country in the shipping address.
10726	Please enter a complete shipping address.	Buyer should enter a complete shipping address.
10727	Please enter an address in line 1 of the shipping address.	Buyer should enter an address1 in the shipping address.
10728	Please enter a city in the shipping address.	Buyer should enter a city in the shipping address.
10729	Please enter a state in the shipping address.	Buyer should enter a state in the shipping address.
10730	Please enter a postal code in the shipping address.	Buyer should enter a valid postal code in the shipping address.
10731	Please enter a country in the shipping address.	Buyer should enter a country in the shipping address.
10732	Please enter a valid addressee name in the shipping address.	Buyer should enter a valid addressee in the shipping address.
10733	Please enter a valid state in the shipping address.	Buyer should enter a valid state in the shipping address.
10734	Please enter a valid postal code in the shipping address.	Buyer should enter a valid postal code in the shipping address.
10735	Please enter a valid postal code in the shipping address.	Buyer should enter a valid postal code in the shipping address.
10736	Please enter a valid city and state in the shipping address.	Buyer should enter a valid city and state in the shipping address.
10744	Please enter a valid country in the billing address.	Buyer should enter a valid country in the billing address.
10745	Please enter a valid country in the shipping address.	Buyer should enter a valid country in the shipping address.

TABLE C.1 Error Codes and the Corresponding Corrective Actions *(Continued)*

Error Code	Error Message	Corrective Action
10746	Your payment can't be processed. Please contact the merchant directly with this code.	Credit card from this country is not supported.
10747	Your payment can't be processed. Please contact the merchant directly with this code.	Contact PayPal with this error code.
10748	Please enter a card security code.	Buyer should enter a Card Security Code.
10750	Please enter a valid state in the shipping address.	Buyer should enter a valid state in the shipping address.
10751	Please enter a valid state in the billing address.	Buyer should enter a valid state in the billing address.
10752	Your payment can't be processed. Please pay with another card.	Transaction was declined by the issuing bank, not PayPal. Buyer should attempt another card.
10754	Your payment can't be processed. Please pay with another card.	Buyer should use a different credit card.
10755	Your payment can't be processed. Please contact the merchant directly with this code.	Review your integration to ensure that the currency code is supported.
10756	Your payment can't be processed. Please pay with another card.	Buyer should use a different credit card.
10759	Your payment can't be processed. Please pay with another card.	Transaction was declined by PayPal. Contact PayPal with this error code.
10761	Your payment can't be processed because this transaction appears to be a duplicate of a recent transaction.	Transaction was declined because PayPal is currently processing a transaction by the same buyer for the same amount. This error can occur when a buyer submits multiple, identical transactions in quick succession.
10762	Your payment can't be processed. Please pay with another card.	Excessive CVV failures on the credit card. Buyer should try a different card.

TABLE C.1 Error Codes and the Corresponding Corrective Actions *(Continued)*

Error Code	Error Message	Corrective Action
10763	Your payment can't be processed. Please contact the merchant directly with this code.	None - this is a PayPal internal error.
10764	Your payment can't be processed. Please contact the merchant directly with this code.	Transaction was declined by PayPal. Contact PayPal with this error code.
11611	Your payment can't be processed. Please contact the merchant directly with this code.	Check your Fraud Management Filters.
11998	Please enter the date when your credit card became valid.	Buyer should give the correct start date for their credit card.
12000	Your payment can't be processed. Please contact the merchant directly with this code.	This is related to insufficient 3DS parameters. Contact PayPal with this error code.
12001	Your payment can't be processed. Please contact the merchant directly with this code.	This is related to insufficient 3DS parameters. Contact PayPal with this error code.
15001	Your payment can't be processed. Please pay with another card.	Transaction was rejected by PayPal because of excessive failures over a short period of time for this credit card. Contact PayPal with this error code.
15002	Your payment can't be processed. Please pay with another card.	Transaction was declined by PayPal. Contact PayPal with this error code.
15003	Your payment can't be processed. Please contact the merchant directly with this code.	Transaction was declined because the merchant does not have a valid commercial entity agreement on file with PayPal. Contact PayPal with this error code.
15004	Please enter a valid Card Security Code.	Transaction was declined because the CVV entered does not match the credit card.
15005	Your payment can't be processed. Please pay with another card.	Transaction was declined by the issuing bank, not PayPal. Buyer should attempt another card.
15006	Please enter a valid card number.	Transaction was declined by the issuing bank, not PayPal. Buyer should attempt another card.

TABLE C.1 Error Codes and the Corresponding Corrective Actions *(Continued)*

Error Code	Error Message	Corrective Action
15007	Your card is expired. Please pay with a valid card.	Transaction was declined by the issuing bank because of an expired credit card. Buyer should attempt another card.
15008	Your payment can't be processed. Please contact the merchant directly with this code.	Review your integration to ensure that the totals match.
15009	Your payment can't be processed. Please contact the merchant directly with this code.	There is a mismatch in the currency code. Contact PayPal with this error code.
99998	Your payment can't be processed. Please contact the merchant directly with this code.	Credit card data is invalid. Contact PayPal with this error code.

D Currency Codes

The table below lists all the currencies supported by PayPal.

TABLE D.1 Currency Codes

Currency Code	Country Name
AUD	Australian Dollar
CAD	Canadian Dollar
CHF	Swiss Franc
CZK	Czech Koruna
DKK	Danish Krone
EUR	Euro
GBP	British Pound Sterling
HKD	Hong Kong Dollar
HUF	Hungarian Forint
JPY	Japanese Yen
NOK	Norwegian Krone
NZD	New Zealand Dollar
PLN	Polish Zloty
SEK	Swedish Krona
SGD	Singapore Dollar
USD	U.S. Dollar

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